

EXHIBIT 21

CRIME

MCSO: 2 of 4 intruders dead, homeowner injured in home invasion

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Correction: The crimes occurred in the 14900 block of Southeast 32nd Court Road in Summerfield. A previous version of this article indicated the wrong block.

SUMMERFIELD — Marion County sheriff's officials say a homeowner armed with an AR-15 shot and killed two intruders and was injured himself during a home invasion robbery in Summerfield Wednesday night.

Two other robbery suspects — Robert John Hamilton, 19, of Ocala, and Seth Adam Rodriguez, 22, of Belleview — were detained near the scene, according to the Marion County Sheriff's Office.

Nigel Doyle, 22, of Summerfield, and Keith Jackson Jr., 21, Ocala, were killed. The homeowner, whose name was not released by the Sheriff's Office, was in stable condition at a hospital Thursday morning.

Rodriguez was arrested on charges of murder and home invasion robbery with a firearm. Hamilton faces home invasion robbery with a firearm.

Deputies got the call at 8:21 p.m. and went to the home at 14999 SE 32nd Court Road in response to a report of shots fired.

Sgt. Micah Moore found Doyle with a gunshot wound and a shotgun next to him on the ground. Deputies entered the home and found Jackson dead on the dining room floor. Detectives said he was wearing a "Jason" mask on top of his head, gloves on both hands, jeans and a black shirt.

Near Jackson's head was a semi-automatic pistol, detectives said.

Continuing into the home, deputies found the 61-year-old homeowner in a bedroom.

He had an AR-15 rifle on his legs and was bleeding from a gunshot wound to the stomach, according to sheriff's officials. Doyle and the homeowner were transported to Ocala Regional Medical Center, where Doyle died.

Deputies continued to search the area.

Deputy Austin Coon and K-9 Deputy Alberto Gago, with his dog Nitro, found Rodriguez and Hamilton in the 15000 block of Southeast 36th Avenue, according to arrest reports. Rodriguez was hiding in tall grass on the side of the road.

He was wearing sweat pants and a purple shirt. Hamilton was wearing all black clothing.

Deputies said the men were sweating.

The mobile home where the shooting occurred is on a 20-acre lot with dense woods and a single-lane dirt driveway. The distance from a gate to home is roughly 300 yards.

Deputies found a Volkswagen parked near the south side of the home. The front doors were open.

Deputies recovered a pump-action shotgun on the ground next to the front porch. They reported smelling a strong odor of marijuana at the home.

The homeowner told Detective Travis O'Cull that, about an hour before the shooting, a male who he barely remembers from a past Craigslist transaction, knocked on the front door, according to sheriff's officials.

The homeowner said he did not open the door but saw the male peering through a back sliding glass door. He said he asked the male what he was doing and was told he needed help with his vehicle.

The homeowner said he told the individual he was disabled and couldn't help him. That person then left and homeowner went to sleep.

The homeowner told the detective he was awakened by a loud noise and grabbed his AR-15, which was near his bed. He saw a masked person inside the home, he said, and he and the intruders exchanged gunfire. He said he shot at the man in the mask and at a second person coming toward him.

The homeowner said it was Jackson who shot him.

Detectives Ian Simpson and John Lightle interviewed Rodriguez and Hamilton.

According to arrest reports, Rodriguez said he, Hamilton, Doyle and Jackson were Doyle's home earlier in the day and that Doyle and Jackson planned to rob the Summerfield home for marijuana and guns.

They left Doyle's home in Jackson's car and went to there, the report states. Rodriguez said Hamilton kicked in the front door and Doyle and Jackson rushed inside. Rodriguez said he heard gunshots from the homeowner.

Rodriguez said Doyle had given him a BB gun at the doorway. He said he ran away and got rid of the weapon.

Hamilton told the detectives he got out of the car before the robbery and walked down the street. He denied being at the scene. After the interviews, both men were arrested.

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EXHIBIT 22

With Brandon Johnson at the helm, big shifts are ahead for Chicago Public Schools



Editorial: Brandon Johnson's statement on Loop violence was as revealing as it was lamentable



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AURORA BEACON-NEWS

Gun instructor uses AR-15 to stop attacker in Oswego: 'He was a half a breath away from getting his head blown off'

By Hannah Leone
Chicago Tribune • Mar 01, 2018 at 6:40 am



Dave Thomas, 41, a National Rifle Association instructor talks about his decision to use his AR-15 as a scare tactic to stop a stabbing Feb. 27, 2018, in Oswego. The stabbing occurred the day prior. (Chris Sweda / Chicago Tribune)

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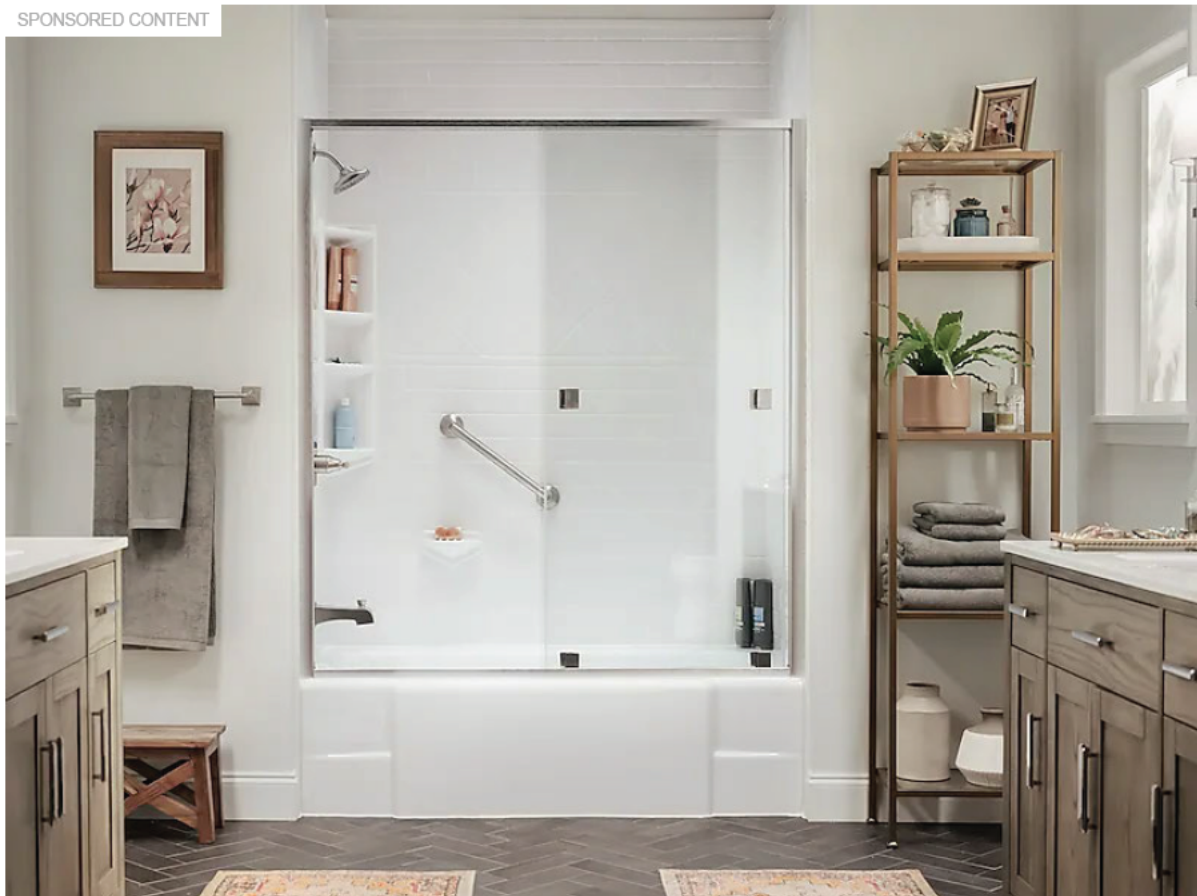
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Dave Thomas was getting ready for work Monday afternoon when he heard women screaming in his apartment building in Oswego.

Thomas, a gun instructor, peeked out the door and saw blood in the hallway. He went to his bedroom, where a handgun and an AR-15 assault-style rifle were lying on the bed. He picked up the rifle.

"I teach people how to defend themselves, and it was just a reaction to grab the AR-15," he said.

Police said Thomas confronted a man who was stabbing another man in the apartment complex on the 100 block of Harbor Drive. The man with the knife ran off when Thomas threatened to shoot him.



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By [Bath Fitter](#)

"He was a half a breath away from getting his head blown off and he knew that," Thomas, 41, said. "That's why he put the knife down."

Kendall County sheriff's deputies arrived about 5 p.m. and arrested two people, the man suspected of stabbing his neighbor and a woman with him. The neighbor was treated and released from Rush Copley Medical Center

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Jacob Currey, 22, who lives in the building, was charged with aggravated battery and mob action. The same charges were filed against Alyssa Wright, 19, of Naperville. Both had a bond hearing scheduled for Wednesday.

A 27-year-old woman who lives in the building said she had ordered pizza and went outside to meet the delivery driver when Currey started to fight with her. That escalated into him stabbing her husband inside the building. The knife also nicked her leg, she said.

The woman said she is nine months pregnant and was already on bed rest. "He told me he was gonna kill my baby — while his hand was covered in my husband's blood," she said.

A sheriff's spokesman, Detective Bryan Harl, credited Thomas with preventing the situation from getting worse, and said the investigation showed he'd done nothing criminal. "He did in the moment what he thought was going to de-escalate this situation and stop any further violence or loss of life and for that he is to be praised," Harl said.

Thomas has a valid firearm owner's identification card and a concealed carry permit, the sheriff's office said. Thomas said he used to train with police. His current job includes teaching concealed carry classes, and he also works private security. He has lived in Oswego since 2004.

Thomas believes if he'd grabbed the smaller gun, the threat would have been less effective and he would have ended up shooting the man.

"I think this is a perfect example of why... every single law-abiding citizen should have an AR-15," Thomas said, adding that they should have proper training.

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EXHIBIT 23

OKLAHOMA • Published March 27, 2017 5:07pm EDT

Homeowner's son shoots, kills three would-be burglars

By | **Fox News**



Sheriff's deputies gather outside a home in Broken Arrow, Okla., where three intruders were shot and killed Monday, March 27, 2017. (KOKI-TV)

Three would-be robbers were shot and killed Monday when an Oklahoma homeowner's son opened fire on them with an AR-15, authorities said.

Wagoner County sheriff's deputies were called to the home in Broken Arrow, southeast of Tulsa at around 12:30 p.m. local time. When they arrived, they found the three dead suspects and two uninjured residents.

Sheriff's spokesman Deputy Nick Mahoney said the suspects entered the home through a glass back door with the intent to burglarize it. It was not immediately clear why they picked that home.

Mahoney said the suspects encountered the homeowner's 19-year-old son, who opened fire after an exchange of words. Two of the suspects died in the home's kitchen while a third was found in the driveway.

It was not immediately clear whether the suspects were armed, but Mahoney said the preliminary investigation indicated the shootings were in self-defense. The homeowner's son volunteered to give a statement at the sheriff's office.

This is very, very unusual for us [in Wagoner County]," Mahoney told [the Tulsa World](#). "It's not something we're used to."

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EXHIBIT 24

NEWS

Investigators: 15-year-old son of deputy shoots burglary suspect

A teenage boy who was babysitting his younger sister shot and wounded a burglary suspect Tuesday afternoon, according to Harris County deputies.

Author: KHOU Staff and KHOU.com (KHOU)

Published: 6/29/2010 9:29:28 PM

Updated: 9:29 PM CDT June 29, 2010



HOUSTON The teenage son of a Harris County Precinct 1 deputy shot a home intruder Tuesday afternoon in the 2600 block of Royal Place in northwest Harris County, deputies said.

The 15 year old boy and his 12 year old sister had been home alone in the Mount Royal Village subdivision when around 2:30 p.m. a pair of burglars tried the front and back doors, then broke a back window.

The teenager grabbed his father's assault rifle and knew what to do with it.

We don't try to hide things from our children in law enforcement, Lt Jeffrey Stauber said That young boy was protecting his sister He was in fear for his life and her life

The home invaders fled, leaving a trail of blood.

Shortly afterwards, two suspects showed up at Tomball hospital. One was an adult and was hit at least three times. Lifeflight flew him to Memorial Hermann hospital in the Medical

Center. The second suspect, a juvenile, was taken back to the crime scene, authorities said.

Neighbors said burglars had recently struck the two houses next door, including the deputy's home.

They stole everything what they have inside They already did it one time, Rafael Cortez said

EXHIBIT 25

Large-Capacity Magazines and the Casualty Counts in Mass Shootings: The Plausibility of Linkages

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Gary Kleck¹

Abstract

Do bans on large-capacity magazines (LCMs) for semiautomatic firearms have significant potential for reducing the number of deaths and injuries in mass shootings? The most common rationale for an effect of LCM use is that they allow mass killers to fire many rounds without reloading. LCMs are known to have been used in less than one third of 1% of mass shootings. News accounts of 23 shootings in which more than six people were killed or wounded and LCMs were known to have been used, occurring in the United States in 1994–2013, were examined. There was only one incident in which the shooter may have been stopped by bystander intervention when he tried to reload. In all of these 23 incidents, the shooter possessed either multiple guns or multiple magazines, meaning that the shooter, even if denied LCMs, could have continued firing without significant interruption by either switching loaded guns or changing smaller loaded magazines with only a 2- to 4-seconds delay for each magazine change. Finally, the data indicate that mass shooters maintain such slow rates of fire that the time needed to reload would not increase the time between shots and thus the time available for prospective victims to escape.

Keywords

mass shootings, gun control, large-capacity magazines

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Introduction—Mass Shootings and Large-Capacity Magazines (LCMs)

There have been at least 23 shootings in which more than six victims were shot and one or more LCMs were known to have been used in the United States in the period 1994–2013. One of the most common political responses to mass shootings has been to propose new gun control measures, commonly focusing on “assault weapons” and LCMs. LCMs are detachable ammunition magazines used in semiautomatic firearms that are capable of holding more than a specified number (most commonly 10 or 15) rounds. For example, the 1994 federal assault weapons ban prohibited both (a) certain kinds of guns defined as assault weapons and (b) magazines able to hold more than 10 rounds (Koper, 2004). At least eight states and the District of Columbia similarly ban magazines with a large capacity, and still other states are considering bills to enact such restrictions (Brady Campaign to Prevent Gun Violence, 2013).

Theory The Rationale for LCM Bans

When supporters of bans on LCMs provide an explicit rationale for these measures, they stress the potential for such restrictions to reduce the death toll in mass shootings. And indeed there is a statistical association between LCM use and the casualty count in mass shootings (Koper, 2004), though it is unknown whether this reflects an effect of LCM use or is merely a spurious association reflecting the offender’s stronger intention to harm many people. If there is a causal effect, how would it operate? Does possession of LCMs somehow enable aggressors to shoot more victims, above and beyond the ability conferred by the use of semiautomatic guns equipped with smaller capacity detachable magazines? (A semiautomatic firearm is a gun that fires a single shot for each pull of the gun’s trigger, but automatically causes a fresh round to be loaded into the gun’s firing chamber.)

Possession of LCMs is largely irrelevant to ordinary gun crimes, that is, those with fewer victims than mass shootings, because it is extremely rare that the offenders in such attacks fire more rounds than can be fired from guns with ordinary ammunition capacities. For example, only 2.5% of handgun crimes in Jersey City, NJ, in 1992–1996 involved over 10 rounds being fired (Reedy & Koper, 2003, p. 154). Even among those crimes in which semiautomatic pistols were used, and some of the shooters were therefore likely to possess magazines holding more than 10 rounds, only 3.6% of the incidents involved over 10 rounds fired. Thus, if LCMs have any effect on the outcomes of violent crimes, it is more likely to be found among mass shootings with many victims, which involve unusually large numbers of rounds being fired.

Koper (2004) noted that “one of the primary considerations motivating passage of the ban on [LCMs]” was the belief that

semiautomatic weapons with LCMs enable offenders to fire high numbers of shots rapidly, thereby potentially increasing both the number of persons wounded per gunfire incident . . . and the number of gunshot victims suffering multiple wounds, both of which would increase deaths and injuries from gun violence. (p. 80)

This summary was as much a rationale for restricting semiautomatic guns as it was for limits on magazine capacity, but Koper also concluded that “an LCM is arguably the most important feature of an AW. Hence, use of guns with LCMs is probably more consequential than use of guns with other military-style features” (p. 80). He then went on: “By forcing AW and LCM offenders to substitute non-AWs with small magazines, the ban might reduce the number of shots fired per gun, thereby reducing both victims shot per gunfire incident and gunshot victims sustaining multiple wounds” (p. 81).

It is reasonable to expect fewer people shot if fewer rounds were fired, but Koper did not explain why, for example, the use of three 10-round magazines would result in fewer shots fired than if a 30-round magazine were used. After all, three 10-round magazines and one 30-round magazine both contain 30 cartridges and thus allow 30 shots to be fired. Semiautomatic guns do not fire any faster when they have a larger magazine inserted in them than when they have a smaller magazine, nor is the lethality of any one shot affected by the size of the magazine from which it came. A limit on the number of cartridges that the shooter could fit into any *one* magazine would not limit the total number of rounds of ammunition that a would-be mass shooter could bring to the scene of their crime, or even the total number loaded into multiple detachable magazines.

The main difference between a 30-round magazine and three 10-round magazines, however, is that a shooter equipped with three 10-round magazines would have to change magazines twice in order to fire 30 rounds, while a shooter with a 30-round magazine would not have to change magazines at all. This presumably is what Koper (2004) meant when he wrote that “semiautomatic weapons with LCMs enable offenders to fire high numbers of shots rapidly” (p. 80).

Thus, it could be the *additional magazine changes* necessitated by the use of smaller magazines that might reduce the number of people hurt in mass shootings. Advocates of LCM bans argue that, if LCMs were not available, would-be mass murderers would shoot fewer people because they *would have to reload more often* due to the more limited capacities of the magazines that would then be legally available. A spokesperson for the Violence Policy Center (2011), for example, argued that “High-capacity ammunition magazines facilitate mass shootings by giving attackers the ability to fire numerous rounds without reloading.”

It is not, however, self-evident why this should be so. Skilled shooters can change detachable magazines in 2 seconds or less, and even relatively unskilled persons can, with minimal practice, do so in 4 seconds (for a demonstration, see the video at <https://www.youtube.com/watch?v=ZRCjY-GtROY>, which shows a 2-seconds magazine change by an experienced shooter). Certainly, additional magazine changes do not increase the time needed to fire a given number of rounds by much.

Why, then, might inducing more magazine changes reduce casualty counts? Two explanations have been offered. First, during an additional interval when the shooter was forced to change magazines, *bystanders might tackle the shooter and prevent any further shooting*. Bystanders are presumably more willing to tackle a shooter while the shooter was reloading because it would be safer to do so—a shooter armed with only

one loaded gun would not be able to shoot those seeking to intervene during the effort to reload. A shooter equipped only with smaller capacity magazines would have to change magazines sooner and would therefore presumably shoot fewer people before he was tackled by the bystanders.

Second, additional magazine changes could extend the time interval between some of the shots, thereby *allowing more prospective victims to safely escape the scene* than otherwise would have been the case had the possession of LCMs enabled the shooter to reload less often.

These scenarios are plausible as logical possibilities, but have they actually occurred in the past often enough for it to be plausible that they would happen with some nonnegligible frequency in the future? If the past is any guide to the future, the credibility of any expectation of future benefits from LCM restrictions would rely heavily on how often these scenarios have actually played out in past mass shootings. This research is intended to test the plausibility of these possible causal linkages between LCM use and the casualty counts of mass shootings by closely examining the relevant details of such crimes. In particular, it was intended to estimate the share of mass shootings in which LCM use could plausibly have affected the casualty count.

Prior Research on LCMs

No one has actually tested whether mass shooters with LCMs fire more rounds than those without LCMs. We only have evidence indirectly bearing on this issue. Koper reported data showing that there are more *gunshot wound victims* in incidents in which the offender used an LCM (Koper, 2004, p. 86). The meaning of this statistical association, however, is unclear since one would expect it to exist even if LCM use had no causal effect on either the number of shots fired or the number of victims shot. The association is at least partly spurious if the deadliness of the shooter's intentions affects both his selection of weaponry (including magazines) and the number of shots he fires or persons he wounds.

It is a virtual tautology that the deadliness of the shooter's intentions affects the number of people hurt, unless one is prepared to assert that there is no relationship whatsoever between violent intentions and outcomes. While it is certainly true that outcomes do not match intentions perfectly, it is unlikely that there is no correlation at all.

The deadliness of a would-be mass shooter's intentions, however, is also likely to affect preparations for the shooting, such as accumulating many rounds of ammunition, acquiring multiple guns and multiple magazines, and selecting larger magazines rather than smaller ones. Accounts of mass shootings with high death tolls routinely describe the shooters making elaborate plans for their crimes, well in advance of the attacks, and stockpiling weaponry and ammunition (e.g., see Office of the State's Attorney 2013, regarding the Sandy Creek elementary school shootings; *Washington Post* "Pa. Killer had Prepared for 'Long Siege,'" October 4, 2006, regarding the Amish school killings in Lancaster, PA; Virginia Tech Review Panel, 2007, especially pp. 25–26, regarding the shootings at Virginia Tech; "Before gunfire, hints of bad

news,” *New York Times* August 27, 2012, regarding the Aurora Colorado movie theater shootings). In short, people who intend to shoot many people are not only more likely to end up doing so but also prepare for doing so by acquiring equipment that they believe is better suited to this task.

The most direct indication that the intentions of mass shooters are more deadly than those of the average gun aggressor, aside from the number of casualties inflicted itself, is the percentage of wounded victims who were killed rather than nonfatally wounded. The data gathered for the present study indicate that in 23 LCM-involved mass shooting incidents, a total of 197 gunshot victims were killed and 298 were nonfatally wounded, for a fatality rate of 40.0%. In contrast, Cook (1985, p. 96) reported that police reports on general samples of shootings indicated that about only 15% of those wounded by gunshot were killed. Thus, the lethality of gunshot wounds inflicted by mass shooters is about 2.7 times as high as for shootings in general. Any one shot fired from a gun equipped with a larger capacity magazine is no more deadly or accurate than one fired from a gun with a smaller capacity magazine, so it is implausible that LCMs affect this fatality rate (deaths/persons wounded) by enabling shooters to more accurately hit vital areas of a victim’s body where wounds are more likely to be fatal. Indeed, if those who suggest that shooters with LCMs fire faster than other shooters are correct, accuracy would be worse in LCM-involved shootings.

Thus, it is more likely that the high fatality rate in mass shootings is a product of the aggressor’s stronger intentions to shoot more people, though it could also be partly a product of the greater use of rifles and shotguns in mass shootings (25 of the 66 guns used in these incidents [38%] of known gun type were rifles or shotguns; in comparison, only 8% of all U.S. gun homicides in 2014 were committed with rifles or shotguns—U.S. Federal Bureau of Investigation [FBI], 2015). This too could be an indication of greater shooter lethality, since rifles and shotguns are, on average, more lethal than handguns (Kleck, 1984). In sum, mass shooters appear to have more lethal intentions as aggressors, apart from any advantages they may gain from use of LCMs.

There is therefore sound reason to question whether a simple bivariate association between LCM use and number of shots fired, or victims wounded, in a mass shooting reflects a causal effect of LCM use. Unfortunately, there is no known way to directly measure the lethality of shooters’ intentions at the time of their shootings, so we cannot simply statistically control for lethality of intentions in order to isolate the effect of LCM use. On the other hand, it would become more plausible to conclude that LCM use made its own contribution to the casualty count of shootings, above and beyond the effects of the apparently more lethal intentions of their users, if there was some evidence that either (a) significant numbers of mass shootings were disrupted by bystanders intervening when the shooters attempted to reload detachable magazines or (b) magazine changes increase the time intervals between shots fired, thus potentially allowing more prospective victims to escape to safety. This article provides a close examination of the details of mass shootings so as to cast light on these and related issues.

Method

Definition of Eligible Incidents

We tried to identify, as comprehensively as possible, all mass shootings that occurred in the United States in the 20-year period from 1994 through 2013 inclusive and that were known to have involved an LCM. An LCM was defined as a magazine holding more than 10 rounds of ammunition. A mass shooting was defined as one in which more than six people were shot, either fatally or nonfatally, in a single incident. Any specific numerical cutoff is necessarily somewhat arbitrary, but some are less arbitrary than others. The six-victim cutoff was used because an offender could shoot as many as six persons using a typical old-fashioned six-shot revolver of the sort that has been around since the 19th century, and our goal was to identify all incidents in which it was plausible that use of an LCM (always used in connection with modern semiautomatic firearms) affected the number of casualties. It is less likely that LCMs affect the casualty count in incidents in which few people were shot, and generally fewer rounds were fired, since the rationale for banning LCMs is that they permit shooters to fire many rounds without reloading, and thereby kill or injure more victims (Koper, 2004). Thus, had the numerical cutoff been set lower, the sample of incidents would have included more cases in which LCM use was unlikely to have affected the number of victims. In that way, we have intentionally biased the sample in favor of the hypothesis that LCM use causes a higher casualty count.

We partly relied on a list compiled by the staff of the Violence Policy Center (2015) to identify LCM-involved mass shootings. Because this organization advocates bans on LCMs (Violence Policy Center, 2011), we are confident its staff were well motivated to compile as comprehensive a list as possible so as to better document the need to restrict magazine capacities. Our search of NewsBank and the other compilations of mass shootings that we cite (see Data Sources section) did not uncover any additional qualifying incidents. It is nevertheless logically impossible to know for certain that all qualifying incidents were included.

We did not employ the oft-used definition of “mass murder” as a homicide in which four or more victims were killed, because most of these involve just four to six victims (Duwe, 2007), which could therefore have involved as few as six rounds fired, a number that shooters using even ordinary revolvers are capable of firing without reloading. LCMs obviously cannot help shooters who fire no more rounds than could be fired without LCMs, so the inclusion of “nonaffectable” cases with only four to six victims would dilute the sample, reducing the percentage of sample incidents in which an LCM might have affected the number of casualties. Further, had we studied only homicides with four or more dead victims, drawn from the FBI’s Supplementary Homicide Reports (SHR), we would have missed cases in which huge numbers of people were shot, and huge numbers of rounds were fired, but three or fewer of the victims died. For example, in one widely publicized shooting carried out in Los Angeles on February 28, 1997, two bank robbers shot a total of 18 people—surely a mass shooting by any reasonable standard (Table 1). Yet, because none of the people they shot died, this incident would not qualify as a mass murder (or even murder of

Table I. Mass Shootings in Which Shooter(s) Used Magazines With a Capacity Over 10 Rounds, United States, 1994–2013.^a

| Shooter(s) | Date | Number of Shooters | | Number of Guns | | Number of Magazines | | Capacity of Largest Magazine | | Shooter(s) Reloaded? | Number of Shots Fired | | Seconds Per Shot | | Number Killed | | Number Nonfatal Wounded | |
|---|--------------------|--------------------|----|----------------|--------------|---------------------|------|------------------------------|------|----------------------|-----------------------|--|------------------|--|---------------|--|-------------------------|--|
| | | | | | | | | | | | | | | | | | | |
| Dean A. Enberg | June 20, 1994 | 1 | 2 | 4 | 4 | 70 | ? | 43–56 | <6 | 4 | 23 | | | | | | | |
| Larry Phillips, Jr., and Em Matasareanu | February 28, 1997 | 2 | 6 | 9+ | 100 | Yes | 188 | 15.64 | 2.40 | 0 | 18 | | | | | | | |
| Matthe Johnson and Andrew Goden | March 24, 1998 | 2 | 13 | 3 | 30 | ? | ? | ? | ? | 5 | 11 | | | | | | | |
| K. P. K. Nke | May 21, 1998 | 1 | 3 | 3+ | 50 | Yes | 51 | ? | ? | 2 | 15 | | | | | | | |
| Dylan K. Ebo and Eric Harris | April 20, 1999 | 2 | 4 | 16 | 52 | Yes | 188 | 15.64 | 2.40 | 13 | 21 | | | | | | | |
| Larry Gene Ashbrook | September 15, 1999 | 1 | 2 | 6 | 15 | Yes | >100 | 6.00 | ? | 7 | 7 | | | | | | | |
| Byran Koj Uyesug | November 2, 1999 | 1 | 1 | 3 | 15 | ? | 10 | 180.0 | ? | 7 | 0 | | | | | | | |
| Michael McDermott | December 26, 2000 | 1 | 3 | 4+ | 30 | Yes | 37 | 10.54 | ? | 7 | 0 | | | | | | | |
| Terry Ratzmann | March 12, 2005 | 1 | 1 | 3 | 15? | Yes | 22 | <2.7 | ? | 7 | 4 | | | | | | | |
| Seung-Hu Cho | April 16, 2007 | 1 | 2 | 19 | 15 | Yes | 174 | 53.79 | ? | 32 | 23 | | | | | | | |
| Robert Hawkins | December 5, 2007 | 1 | 1 | 2 | 30 | ? | >30 | 12.00 | ? | 8 | 5 | | | | | | | |
| Steven Kazmierczak | February 14, 2008 | 1 | 4 | 6+ | 33 | Yes | 56 | 5.36 | ? | 5 | 21 | | | | | | | |
| Jeremy Wong | April 3, 2009 | 1 | 2 | 3 | 30 | Yes | 99 | ? | ? | 13 | 4 | | | | | | | |
| George Sodn | August 4, 2009 | 1 | 4 | 3+ | 30 | ? | 50 | ? | ? | 3 | 9 | | | | | | | |
| Nada Hasan | November 5, 2009 | 1 | 2 | 15 | 30 | Yes | 214 | ? | ? | 13 | 38 | | | | | | | |
| Timothy Hendron | January 7, 2010 | 1 | 4 | 3+ | Probable LCM | ? | 115 | c. 18 | ? | 3 | 5 | | | | | | | |
| Omar Thornton | August 3, 2010 | 1 | 2 | 4 | 17 | ? | 19 | 9.47 | ? | 8 | 2 | | | | | | | |
| Jared Loughner | January 8, 2011 | 1 | 1 | 4 | 33 | No ^b | 31 | 0.45 | ? | 6 | 13 | | | | | | | |
| Eduardo SANCAN | September 6, 2011 | 1 | 3 | 3 | 30 | Yes | 60+ | 1.42 | ? | 4 | 14 | | | | | | | |
| James Holmes | July 20, 2012 | 1 | 4 | 4 | 100 | Yes | 76 | 4.74 | ? | 12 | 58 | | | | | | | |
| Michael Page | August 5, 2012 | 1 | 1 | 3 | 19 | Yes | 33+ | ? | ? | 6 | 3 | | | | | | | |
| Andrew Engdner | September 27, 2012 | 1 | 1 | 2 | 15 | Yes | 46+ | 16.3 | ? | 6 | 2 | | | | | | | |
| Adam Lanza | December 14, 2012 | 1 | 4 | 12+ | 30 | Yes | 154+ | 1.56 | ? | 26 | 2 | | | | | | | |

Note: Details of these incidents and citations to news accounts used as sources may be found in the appendix to an extended version of this article, with the same title, on the Social Science Research Network, at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=270066. LCM = large-capacity magazine; c = circa, i.e. approximate; ? = unknown.

^aNumber of guns is the number in the shooter's immediate possession, not necessarily the number fired. Number of magazines is the number of detachable magazines in the shooter's immediate possession. The number includes magazines in loaded semiautomatic firearms. "Seconds per shot" is the average time interval between shots through the period of shooting. ^bShooter was prevented from reloading a defective magazine by bystanders taking him.

any kind). Exclusion of such incidents would bias the sample against the proposition that LCM use increases the number of victims by excluding incidents with large numbers of victims.

We also excluded shootings in which more than six persons were shot over the entire course of the incident, but the shootings occurred in multiple locations with no more than six people shot in any one of the locations, and substantial periods of time intervened between episodes of shooting. An example is the series of killings committed by Rodrick Dantzler on July 7, 2011. He killed seven people and wounded two others, but did so in three different locations over a 5-hr period, shooting no more than four people in any one of the locations. Since shooters in these types of incidents have ample time to reload between sets of shots even without LCMs, use of an LCM is less likely to be relevant to the casualty counts than in a mass shooting as defined herein.

It is not possible to compare shootings involving LCMs with shootings not involving LCMs, because no source of information on shooting incidents, whether news media reports or police offense reports, systematically establishes which shootings did *not* involve LCMs. Thus, it is impossible to distinguish (a) shootings in which the perpetrator did not use an LCM from (b) shootings in which the perpetrator *did* use an LCM, but this fact was not mentioned in the account of the incident. Consequently, we are necessarily limited to describing incidents that were affirmatively identified as involving LCMs. In any case, since our purpose was to establish how often LCM use affects casualty counts in mass shootings, even if we could identify incidents that definitely did not involve LCMs, they would be irrelevant to this narrow purpose because they are obviously cases in which LCM use could not have affected casualty counts.

Data Sources

We relied on news stories to identify mass shootings and get information on their details. Relying on news outlets has obvious limits, since some mass shootings get little news coverage beyond a few stories by news outlets near the shooting location, and it is possible that none of the writers of these few stories used even one of the common words and phrases we used in our database searches. Further, even multiple news accounts of widely reported incidents may not include crucial details of the incidents, especially the number of shots fired and the duration of the shooting. Also, early news accounts of shootings are sometimes inaccurate in their details (Huff-Corzine, Corzine, Jarvis, Tetzlaff-Bemiller, Weller, & Landon, 2014), so we consulted later stories on a given incident (often pertaining to the trial of the shooter) in addition to early ones. Excluding the early news stories, we found that reported details of mass shootings were extremely consistent across stories. Fortunately, the known biases of news coverage of crime mostly work in favor of our goal of covering shootings in which many shots were fired, since news coverage is biased in favor of reporting incidents with larger numbers of victims (Duwe, 2000).

The alternative of using police reports was not feasible because such reports are not publicly available for a large share of homicides. Relying on the FBI's SHR would be

even worse than news accounts for our purposes, because this source says nothing about the number of rounds fired, number of guns used, details about the guns used (beyond whether they were handguns, rifles, or shotguns), number of magazines used, or the capacity of magazines used for *any* homicide incidents, whereas news stories provide such information for many mass shootings. These same deficiencies apply to data from the FBI's National Incident-based Reporting System, which have the additional disadvantage of covering only part of the nation.

A variety of sources were used to identify eligible incidents. First, as previously noted, we consulted "Mass Shootings in the United States Involving High-Capacity Ammunition Magazines," a fact sheet compiled by the Violence Policy Center, available online at http://www.vpc.org/fact_sht/VPCshootinglist.pdf. This source only covers incidents known to involve magazines with a capacity of 10 or more rounds.

Second, we searched the NewsBank Infoweb online database which covers hundreds of print, broadcast, and online news outlets, including newspapers, news magazines, transcripts of television news programs, and online-only news providers, in every state in the nation. We searched for articles whose text (including headlines) included any of the following phrases: "mass shooting," "massacre," mass murder, "shooting spree," or "rampage" for the 20-year period from January 1, 1994, through December 31, 2013.

Third, we consulted the following existing compilations of mass shootings, mass murders, and "active shooter incidents" (and the sources they cited) to identify potentially relevant shooting incidents:

- "US Mass Shootings, 1982–2012: Data from Mother Jones' (2013) Investigation," created by the staff of *Mother Jones* magazine, available online at <http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data>. This source only covers incidents in public places with four or more dead, and therefore misses those with many victims shot but three or fewer of them fatally as well as incidents occurring in private places. It also includes some spree shootings in which only a few victims were shot in any one location.
- "Analysis of Recent Mass Shootings" (September 2013), compiled by Mayors Against Illegal Guns, and available online at <http://www.demandaction.org/detail/2013-09-updated-analysis-of-recent-mass-shootings>. This covers incidents only for January 2009 to September 2013, and only those with four or more dead victims, thereby excluding those with many victims shot, but three or fewer shot fatally.
- Bjelopera, Bagalman, Caldwell, Finklea, and McCallion (March 18, 2013). *Public Mass Shootings in the United States: Selected Implications for Federal Public Health and Safety Policy*. Washington, DC: Congressional Research Service. This source only covers incidents occurring in public places and with four or more deaths, thereby excluding cases with many victims shot but three or fewer fatally as well as those occurring in private places.
- Citizens Crime Commission of New York City. "Mass Shooting Incidents in America (1984–2012)," at <http://www.nycrimcommission.org/mass-shoot>

ing-incidents-america.php, accessed January 15, 2014. This source covers shootings with four or more persons killed, with a magazine capable of holding more than 10 rounds. It excludes cases with no known use of LCMs, and incidents with many victims shot but three or fewer killed.

Notwithstanding the use of these multiple sources, we cannot be certain of achieving absolutely complete coverage of all LCM-involved mass shootings. Most of the sources rely, directly or indirectly, on news media accounts of the incidents, and some of these shootings received little coverage beyond local news outlets and perhaps an Associated Press state wire service story. The fewer news stories reporting an incident, the more likely it is that there were no stories containing any of the commonly used phrases for which we searched. The mass shootings most likely to receive little news coverage are those with fewer than four victims killed. Most of the lightly covered incidents we discovered also involved fewer than 10 victims shot, fatally or nonfatally.

On the other hand, it is unlikely that we missed many large-scale shootings, because these are likely to be well covered by multiple news outlets. Since those we missed are likely to involve fewer victims, it is also less likely that an LCM was needed for shooting as many people as were shot in these incidents. Omission of these cases, therefore, biases the sample in favor of the hypothesis that LCMs affect casualty counts.

As a check on the completeness of coverage of our methods, we used the FBI's SHRs data to identify all SHR-covered U.S. homicides that involved more than six dead victims and the use of firearms (not just those involving LCMs). These SHR data sets cover about 90% of U.S. homicides. For the period 1994–2013, we identified 17 qualifying incidents in the SHR data sets. We then checked to see if our search methods would have identified these cases. We found that searches of the NewsBank database alone identified all 17 of these incidents. Thus, shootings with many dead victims clearly are completely covered by the news media.

Once eligible incidents were identified, we searched through news accounts for details related to whether the use of LCMs could have influenced the casualty counts. Specifically, we searched for (1) the number of magazines in the shooter's immediate possession, (2) the capacity of the largest magazine, (3) the number of guns in the shooter's immediate possession during the incident, (4) the types of guns possessed, (5) whether the shooter reloaded during the incident, (6) the number of rounds fired, (7) the duration of the shooting from the first shot fired to the last, and (8) whether anyone intervened to stop the shooter.

Findings

How many mass shootings were known to have been committed using LCMs? We identified 23 total incidents in which more than six people were shot at a single time and place in the United States from 1994 through 2013 and that were known to involve use of any magazines with capacities over 10 rounds. Table 1 summarizes key details of the LCM-involved mass shootings relevant to the issues addressed in this article.

What fraction of all mass shootings are known to involve LCMs? There is no comprehensive listing of all mass shootings available for the entire 1994–2013 period, but the most extensive one currently available is the one at the Shootingtracker.com website, which only began its coverage in 2013. For 2013, this database identified 31 incidents in which more than six victims were supposedly killed or injured. This source includes deaths or injuries of perpetrators in their counts of “victim” deaths and injuries and also counts as victims’ persons who were shot at, but not hit. Correcting these flaws eliminated six of the incidents as mass shootings, while another three incidents were spree shootings. Eliminating these nine ineligible incidents left 22 genuine mass shootings. The Shootingtracker database itself does not record LCM use, but examination of news media accounts indicated that none of these 22 incidents in 2013 were known to involve use of an LCM. For 2013, the Violence Policy Center (2015) identified just one shooting with more than six victims killed or injured that involved an LCM, but this incident was a spree shooting in which eight people were shot in three different widely spaced locations, with no more than three shot in any one of the locations (the June 7, 2013, incident in Santa Monica, CA). Thus, there apparently were zero mass shootings in 2013 known to involve LCMs.

To put these numbers in perspective, for the United States as a whole in 2013, there were an estimated 14,196 people killed in murders and nonnegligent manslaughters (MNNM) involving any weapon types, 9,795 of them killed with firearms (U.S. FBI, 2014b). There were an estimated 13,349 mnnm incidents,¹ of which just 3 involved more than six dead victims, 12,675 involved a single dead victim, and 13,346 involved six or fewer dead victims (U.S. Department of Justice Federal Bureau of Investigation, 2015). The 22 qualifying shooting incidents identified by Shooting Tracker as involving more than six victims therefore accounted for less than one sixth of 1% of homicide incidents and victims killed in those incidents claimed less than one tenth of 1% of homicide victims.

One might speculate that there were significant numbers of mass shootings in which LCMs were used, but not a single news account mentioned the LCM use. The use of LCMs has been a major focus of gun control advocacy groups and national news outlets since at least 1989, when a Stockton California schoolyard shooting led to the nation’s first state-level assault weapons ban (Kleck, 1997, chap. 4). In this light, it seems unlikely that LCM use in a mass shooting would go completely unreported in all news accounts, but it cannot be ruled out as a logical possibility. It is, however, irrelevant to our analyses unless shootings with unmentioned LCM use are systematically different from those that explicitly mentioned LCM use—a speculation we cannot test.

LCMs are sometimes defined as magazines holding over 10 rounds, sometimes as those holding over 15 rounds (Koper, 2004). For our entire 20-year study period of 1994–2013, 23 mass shootings were known to involve LCMs using the more inclusive cutoff of 10 rounds, that is, at least one round was fired during the incident from a gun equipped with a magazine capable of holding more than 10 rounds. Using the more stringent cutoff of more than 15 rounds, 20 incidents were known to involve LCMs.

Thus, LCM-involved mass shootings are known to have occurred an average of once per year in the United States over this 20-year period.

How often have bystanders intervened while a mass shooter was trying to reload? How many times people have disrupted a mass shooting while the shooter was trying to load a detachable magazine into a semiautomatic gun? Note that it is irrelevant whether interveners have stopped a shooter while trying to reload some other type of gun, using other kinds of magazines, since we are addressing the potential significance of restrictions on the capacity of detachable magazines that are used only with semiautomatic firearms. Thus, bystander intervention directed at shooters using other types of guns that take much longer to reload than a semiautomatic gun using detachable magazines could not provide any guidance as to the likelihood of bystander intervention when the shooter was using a semiautomatic gun equipped with detachable magazines that can be reloaded very quickly. Prospective interveners would presumably be more likely to tackle a shooter who took a long time to reload than one who took only 2- to 4-s to do so. Likewise, bystander interventions that occurred at a time when the shooter was *not* reloading (e.g., when he was struggling with a defective gun or magazine) are irrelevant, since that kind of bystander intervention could occur regardless of what kinds of magazines or firearms the shooter was using. It is the need to reload detachable magazines sooner and more often that differentiates shooters using smaller detachable magazines from those using larger ones.

For the period 1994–2013 inclusive, we identified three mass shooting incidents (with or without LCM use) in which it was claimed that interveners disrupted the shooting by tackling the shooter while he was trying to reload. In only one of the three cases, however, did interveners actually tackle the shooter while he may have been reloading a semiautomatic firearm. In one of the incidents, the weapon in question was a shotgun that had to be reloaded by inserting one shotshell at a time into the weapon (*Knoxville News Sentinel* “Takedown of Alleged Shooter Recounted” July 29, 2008, regarding a shooting in Knoxville, TN on July 27, 2008), and so the incident is irrelevant to the effects of detachable LCMs. In another incident, occurring in Springfield, OR, on May 21, 1998, the shooter, Kip Kinkel, was using a semiautomatic gun, and he was tackled by bystanders, but not while he was reloading. After exhausting the ammunition in one gun, the shooter started firing another loaded gun, one of the three firearms he had with him. The first intervener was shot in the hand in the course of wresting this still-loaded gun away from the shooter (*The (Portland) Oregonian*, May 23, 1998).

The final case occurred in Tucson, AZ, on January 8, 2011. This is the shooting in which a man named Jared Loughner attempted to assassinate Representative Gabrielle Giffords. The shooter was using a semiautomatic firearm and was tackled by bystanders, purportedly while trying to reload a detachable magazine. Even in this case, however, there were important uncertainties. According to one news account, one bystander “grabbed a full magazine” that the shooter dropped, and two others helped subdue him (Associated Press, January 9, 2011). It is not, however, clear whether this bystander intervention was facilitated because (1) the shooter was reloading or

because (2) the shooter stopping firing when his gun or magazine failed to function properly. Eyewitness testimony, including that of the interveners, was inconsistent as to exactly why or how the intervention transpired in the Giffords shooting. One intervener insisted that he was sure the shooter had exhausted the ammunition in the first magazine (and thus was about to reload) because he saw the gun's slide locked back—a condition he believed could only occur with this particular firearm after the last round is fired. In fact, this can also happen when the gun jams, that is, fails to chamber the next round (Morrill, 2014; Salzgeber, 2014).

Complicating matters further, the *New York Times* reported that the spring on the second magazine was broken, presumably rendering it incapable of functioning. Their story's headline and text characterized this mechanical failure as “perhaps the only fortunate event of the day” (*New York Times* “A Single, Terrifying Moment: Shots, Scuffle, Some Luck,” January 10, 2011, p. A1). If the *New York Times* account was accurate, the shooter would not have been able to continue shooting with that magazine even if no one had stopped him from loading it into his gun. Detachable magazines of any size can malfunction, which would at least temporarily stop a prospective mass shooter from firing, and thereby provide an opportunity for bystanders to stop the shooter. It is possible that the bystander intervention in the Tucson case could have occurred regardless of what size magazines the shooter possessed, since a shooter struggling with a defective small-capacity magazine would be just as vulnerable to disruption as one struggling with a defective LCM. Thus, it remains unclear whether the shooter was reloading a functioning magazine when the bystanders tackled him.

The real significance of LCM use in the Gabrielle Giffords shooting is that the first magazine that the shooter used had a capacity of 33 rounds, and the shooter fired 31 times before being tackled. Had he possessed only a 15-round magazine, and bystanders were willing to intervene when the shooter either reloaded or struggled with a defective magazine, he would have been able to fire at most 16 rounds (including one in the firing chamber)—15 fewer than the 31 he actually fired before he was stopped, for whatever reason. Consequently, instead of the 19 people he shot (6 fatally, 13 nonfatally), it would be reasonable to estimate that he would have shot only about half as many victims. Thus, the absence of an LCM might have prevented three killings and six or seven nonfatal gunshot woundings in this incident.

The bystander intervention in the Giffords shooting was, however, unique, and occurred only because there were extraordinarily courageous and quick-thinking bystanders willing and able to tackle the shooter. Over a 20-year period in the United States, the Tucson incident appears to be the only known instance of a mass shooter using a semiautomatic firearm and detachable magazines in which the shooter was stopped by bystanders while the shooter may have been trying to reload such a magazine. All other mass shootings have instead stopped only when the shooter chose to stop and left the scene, the shooter committed suicide, or armed police arrived and forced the shooter to stop (see U.S. FBI, 2014a).

The use of multiple guns and multiple magazines. Restrictions on LCMs obviously could not have affected mass shootings in which no LCMs were used, so it is just those that

Table 2. Summary of Key Characteristics of Mass Shootings (>6 Shot) With Large Capacity Magazines, United States, 1994–2013.

| Key Characteristics of the Incidents | Mass Shootings With Magazines Over 10 Rounds (<i>n</i> = 23) | | | Mass Shootings With Magazines Over 15 Rounds (<i>n</i> = 20) | | |
|--|---|----|--------------|---|----|--------------|
| | Yes | No | Not Reported | Yes | No | Not Reported |
| Multiple guns | 17 (74/74%) | 6 | 0 | 15 (75/75%) | 5 | 0 |
| Multiple magazines | 23 (100/100%) | 0 | 0 | 20 (100/100%) | 0 | 0 |
| Both multiple guns and multiple magazines | 17 (74/74%) | 6 | 0 | 15 (75/75%) | 5 | 0 |
| Either multiple guns or multiple magazines | 23 (100/100%) | 0 | 0 | 20 (100/100%) | 0 | 0 |
| Shooter reloaded | 14 (88/61%) | 2 | 7 | 12 (86/60%) | 2 | 6 |

Note. First number in parentheses after each frequency is the percentage of incidents with nonmissing information that had the indicated attribute. The second number in parentheses is the percentage of all incidents, including those for which the relevant information was missing, that had the indicated attribute.

involved LCMs that are relevant to judging the benefits that might have accrued had LCMs been unavailable at the beginning of the study period. As previously noted, there is considerable evidence that people who commit large-scale shootings, unlike most ordinary aggressors, devote considerable advance planning to their crimes. Part of their preparations entails cumulating multiple guns, multiple magazines, and many rounds of ammunition. The significance of this is that, in cases where the shooter has more than one loaded gun, he can continue firing, without significant pause, even without LCMs, simply by switching to a loaded gun. Alternatively, if he has multiple small magazines rather than LCMs, the shooter can continue firing many rounds with only a 2- to 4-s pause between shots for switching magazines.

Table 2 displays how often LCM-involved mass shootings involved shooters using either multiple guns or multiple magazines. Of 23 such incidents using the “more-than-10-rounds” criterion, the shooters possessed more than one gun in 17 incidents (74%), leaving six cases in which it was known that the shooter possessed just one gun. Of 20 incidents using the more-than-15-rounds criterion, the shooters possessed more than one gun in 15 incidents (75%), leaving five cases in which it was known that the shooter possessed just one gun.

Of 23 mass shootings with LCMs (>10 rounds), offenders were known to possess multiple detachable magazines in all 23 incidents (100%). Likewise, of the 20 mass shootings with magazines holding over 15 rounds, all 20 involved shooters with multiple magazines.

The average number of magazines in the immediate possession of offenders in incidents in which magazines with a capacity greater than 10 were possessed was at least 5.78 (Table 1). These offenders could have continued firing, even if they had possessed only one gun, with only the interruptions of 2–4 s that it would take for each magazine change.

In sum, there were no mass shootings in the United States in 1994–2013 known to have involved LCMs in which the shooter did not possess either multiple guns or multiple detachable magazines. In all mass shootings in which the shooters were known to have possessed one or more LCMs, the shooters could have either continued firing many rounds without any interruption at all simply by switching loaded guns or could have fired many rounds with only very brief interruptions of 2–4 s to change detachable magazines.

The offenders in LCM-involved mass shootings were also known to have *reloaded* during 14 of the 23 (61%) incidents with magazine holding over 10 rounds. The shooters were known to have *not* reloaded in another 2 of these 20 incidents, and it could not be determined if they reloaded in the remaining seven incidents. Thus, even if the shooters had been denied LCMs, we know that most of them definitely would have been able to reload smaller detachable magazines without interference from bystanders since they in fact did change magazines. The fact that this percentage is less than 100% should not, however, be interpreted to mean that the shooters were *unable* to reload in the other nine incidents. It is possible that the shooters could also have reloaded in many of these nine shootings, but chose not to do so, or did not need to do so in order to fire all the rounds they wanted to fire. This is consistent with the fact that there has been at most only one mass shooting in 20 years in which reloading a semiautomatic firearm might have been blocked by bystanders intervening and thereby stopping the shooter from doing all the shooting he wanted to do. All we know is that in two incidents, the shooter did not reload, and news accounts of seven other incidents did not mention whether the offender reloaded.

Do more magazine changes allow more prospective victims to escape? An alternative rationale for why limiting aggressors to smaller magazines would result in fewer casualties in mass shootings is that the increased number of magazine changes necessitated by use of smaller magazines would create additional pauses in the shooting, allowing more potential victims to escape than would otherwise escape. For example, a story in the *Hartford Courant* about the Sandy Hook elementary school killings in 2012 was headlined “Shooter Paused, and Six Escaped,” the text asserting that as many as six children may have survived because the shooter paused to reload (December 23, 2012). The author of the story, however, went on to concede that this was just a speculation by an unnamed source, and that it was also possible that some children simply escaped when the killer was shooting other children. There was no reliable evidence that the pauses were due to the shooter reloading, rather than his guns jamming or the shooter simply choosing to pause his shooting while his gun was still loaded.

The plausibility of the “victims escape” rationale depends on the average rates of fire that shooters in mass shootings typically maintain. If they fire very fast, the 2–4 s it takes to change box-type detachable magazines could produce a slowing of the rate of fire that the shooters otherwise would have maintained without the magazine changes, increasing the average time between rounds fired and potentially allowing more victims to escape during the between-shot intervals. On the other hand, if mass

Table 3. Known Rates of Fire in Mass Shootings, 1994–2013.

| Date of Incident | Shots Fired ^a | Time of Firing (Minutes) ^a | Average Shots Per Minute | Average Seconds Per Shot | Number of Guns |
|--------------------|--------------------------|--|--------------------------------|--------------------------------|-------------------|
| June 20, 1994 | >50 | c. 5 | >10 | <6.0 | 2 |
| February 28, 1997 | 1,101 | 44 | 25 | 2.4 | 4 |
| April 20, 1999 | 188 | 49 | 3.8 | 15.8 | 4 |
| September 15, 1999 | >100 | 10 | >10.0 | <6.0 | 2 |
| September 2, 1999 | 10 | <30 | >0.33 | <180.0 | 1 |
| May 24, 2000 | c. 7 | <90 | >0.08 | <771.4 | 1 |
| September 22, 2000 | 9+ | <10 | >0.9 | <66.7 | 1 |
| December 26, 2000 | 37 | 5–8 (6.5) | 5.7 | 10.5 | 3 |
| February 5, 2001 | 25–30 (27.5) | 8–15 (11.5) | 2.4 | 25.1 | 4 |
| March 5, 2001 | c. 24 | 6 | c. 4.0 | c. 15.0 | 1 |
| March 12, 2005 | 22 | <1 | >22.0 | <2.7 | 1 |
| March 21, 2005 | 45 | 9 | 5.0 | 12.0 | 3 |
| March 25, 2006 | 9+ | c. 5 | >1.6 | <33.3 | 2 |
| October 2, 2006 | 17–18 (17.5) | c. 2 | c. 8.75 | c. 6.9 | 2 |
| April 16, 2007 | c. 174 | 156 | c. 1.11 | c. 53.8 | 2 |
| October 7, 2007 | 30 | c. 1 | c. 30.0 | c. 2.0 | 3 |
| December 5, 2007 | >30 | c. 6 | >5.0 | <12.0 | 1 |
| February 14, 2008 | 56 | 5 | 11.1 | 5.4 | 4 |
| January 7, 2010 | 115 | 30 | 3.8 | 15.7 | 4 |
| August 3, 2010 | 19 | 3 | 6.3 | 9.5 | 2 |
| January 8, 2011 | 31 | 0.25 | 125 | 0.48 | 1 |
| September 6, 2011 | 60+ | 1.42 | 42.3+ | 1.4 | 3 |
| July 20, 2012 | 76 | c. 6 | 12.7 | 4.74 | 4 |
| September 27, 2012 | 46+ | 14 | >3.3 | <18.3 | 1 |
| December 14, 2012 | 154+ | 4 | 38.5+ | 1.6 | 3 |

Note. c = circa.

^aWhere a range was provided in news accounts, the midpoint of the range (shown in parentheses) of shots fired or time of firing was used in rate-of-fire computations.

shooters fire their guns with the average interval between shots lasting *more* than 2–4 s, the pauses due to additional magazine changes would be no longer than the pauses the shooter typically took between shots even when not reloading. In that case, there would be no more opportunity for potential victims to escape than there would have been without the additional magazine changes.

Table 3 displays data on rates of fire for LCM-involved mass shootings in 1994–2013. Information on both the duration of the firing and the number of rounds fired was available for 17 of the 23 incidents shown in Table 1 plus another 8 mass shootings for which the necessary information was available but that did not involve any known LCM use. Reliable information on duration of fire may well be unavailable from any source for many mass shootings. There are rarely audio recordings that would provide precise information on the duration of fire (as there were in the 2012 Aurora Colorado movie

theater shooting), so eyewitness estimates are usually the basis for establishing this. On the other hand, there is often quite reliable information on the number of rounds fired, since semiautomatic firearms eject an empty shell casing after each round is fired. When shooters use such guns, crime scene investigators can (absent removal of the evidence by the offender or souvenir hunters) establish the number of rounds fired by counting cartridge casings recovered at the scene.

Average rate of fire was computed as the average number of seconds between shots. In the 25 incidents for which average rates of fire could be determined, shooters never maintained an average rate of fire anywhere as fast as that at which their firearms were capable of firing. Shooters firing as fast as the gun allows can easily fire three rounds per second with a typical semiautomatic firearm, that is, with only about one third of a second between rounds. In only three incidents were mass shooters known to have averaged less than 2 s between rounds. This is no more than one sixth of the maximum rate of fire of which semiautomatic guns are capable (see Table 3, incidents occurring on January 8, 2011, September 6, 2011, and December 14, 2012). This means that taking 2 s to reload a detachable magazine would not have slowed the shooters' average rate of fire at all in 22 of the 25 incidents for which rate of fire could be established and would have only slightly slowed the rate in the remaining three incidents.

It cannot be assumed, however, that in the three incidents in which usually high rates of fire were maintained, use of smaller magazines would have slowed the rate of fire due to a need to change magazines more often. Shooters possessed multiple guns in two of these three relatively rapid fire incidents (those occurring on September 6, 2011 and December 13, 2012), which means that, rather than needing to change magazines to continue shooting, the aggressors could simply have switched guns, from one firearm emptied of rounds to another loaded firearm, without pausing in their shooting at all. Over the 20-year study period, there was just one LCM-involved mass shooting incident in the United States in which a shooter maintained an average rate of fire with less than 2 s elapsing between shots, *and* possessed only a single gun—the shooting involving Jared Loughner (on January 8, 2011), who was stopped from further shooting when he was tackled by bystanders.

In sum, in nearly all LCM-involved mass shootings, the time it takes to reload a detachable magazine is no greater than the average time between shots that the shooter takes anyway when not reloading. Consequently, there is no affirmative evidence that reloading detachable magazines slows mass shooters' rates of fire, and thus no affirmative evidence that the number of victims who could escape the killers due to additional pauses in the shooting is increased by the shooter's need to change magazines.

Conclusions

In light of the foregoing information, it is unlikely that the larger number of rounds fired in the average LCM-linked mass shooting found by Koper (2004) was in any sense caused by the use of LCMs. In all but one of such cases in the period from 1994 through 2013, there was nothing impossible or even difficult about the shooter firing

equally large numbers of rounds even if he had possessed only smaller capacity magazines, since the same number of rounds could easily have been fired with smaller detachable magazines of the sort that would remain legally available under LCM bans. Instead, the larger number of rounds fired by LCM-using shooters is more likely to reflect the more lethal intentions prevailing among such shooters, just as their planned use of multiple guns and multiple magazines, and the unusually high fatality rate (deaths over total woundings) of their attacks are outward indications of a desire to shoot many people. Unfortunately, there are no known methods for reliably measuring the lethality of shooters' intentions independent of the outcomes of their crimes, making it impossible to statistically control for this factor in a multivariate statistical analysis and thereby isolate the effects of LCM use.

One cannot prove a negative, and it is possible that mass shooters in the future might be different from those in the past, and that would-be mass shooters, unlike those of the past, would not obtain multiple guns or multiple smaller capacity magazines as substitutes for LCMs. One might also speculate that incidents that did *not* end up with many shooting victims turned out that way because the shooter did *not* use an LCM. At this point, however, there is little sound affirmative empirical basis for expecting that fewer people would be killed or injured if LCM bans were enacted.

Focusing gun control efforts on mass shootings makes sense from a political standpoint, since support for gun control is elevated following highly publicized gun crimes. Such efforts, however, are less sensible for purposes of reducing the death toll from gun violence, especially if they focus on technologies rarely used in gun crime as a whole. Controls aimed at reducing ordinary forms of firearm violence, such as shootings with just one or a few victims, are more likely to have large impacts on the aggregate gun violence death toll for the simple reason that nearly all victims of gun violence are hurt in incidents with a small number of victims. For example, less than 1% of U.S. homicide incidents in 2013 involved more than two victims killed (U.S. Department of Justice Federal Bureau of Investigation, 2015).

Most types of gun control focus on preventing more dangerous people from acquiring, possessing, or using *any* type of gun, and therefore have potential to prevent a wide array of gun crimes. A prime example is a law requiring background checks on persons seeking to buy guns. Gun laws with a background check component, such owner license and purchase permit laws, have been found to be potentially effective in reducing homicide (Kleck & Patterson, 1993, p. 274). There is already a federal law requiring background checks, but it only applies to purchases from licensed gun dealers. Extending these checks to cover private gun transfers—that is, implementing a federal universal background check (Kleck, 1991, pp. 433–435)—is far more likely to prevent significant numbers of gun crimes than measures aimed at rarely used gun technologies like LCMs and extremely rare types of violent incidents like mass shootings.

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Supplementary Material

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Note

1. Supplementary Homicide Reports (SHR) data for 2013 indicate that there were an average of 1.063 victims per SHR covered homicide incident, implying 13,349 incidents.

References

- Bjelopera, J. P., Bagalman, E., Caldwell, S. W., Finklea, K. M., & McCallion, G. (2013, March 18). *Public mass shootings in the United States: Selected implications for Federal Public Health and Safety Policy*. Washington, DC: Congressional Research Service.
- Brady Campaign to Prevent Gun Violence. (2013). 2013 State Scorecard. Retrieved from [http://www.bradycampaign.org/2013 state scorecard](http://www.bradycampaign.org/2013%20state%20scorecard)
- Citizens Crime Commission of New York City. (2013). Mass shooting incidents in America (1984 2012). Retrieved January 1, 2014, from [http://www.nycrimecommission.org/mass shooting incidents america.php](http://www.nycrimecommission.org/mass-shooting-incidents-america.php)
- Cook, P. (1985). The case of the missing victims: Gunshot woundings in the National Crime Survey. *Journal of Quantitative Criminology*, 1, 91 102.
- Duwe, G. (2000). Body count journalism. *Homicide Studies*, 4, 364 399.
- Duwe, G. (2007). *Mass murder in the United States*. Jefferson, NC: McFarlane.
- Huff Corzine, L., Corzine, J., Jarvis, J. P., Tetzlaff Bemiller, M. J., Weller, M., & Landon, M. (2014). Shooting for accuracy: Comparing data sources on mass murder. *Homicide Studies*, 18, 105 124.
- Kleck, G. (1984). Handgun only gun control. In D. B. Kates, Jr (Ed.), *Firearms and violence: Issues of public policy* (pp. 167 199). San Francisco, CA: Pacific Institute.
- Kleck, G. (1991). *Point blank*. NY: Aldine de Gruyter.
- Kleck, G. (1997). *Targeting guns*. NY: Aldine de Gruyter.
- Kleck, G., & Patterson, E. B. (1993). The impact of gun control and gun ownership levels on violence rates. *Journal of Quantitative Criminology*, 9, 249 287.
- Koper, C. S. (2004). *An updated assessment of the federal assault weapons ban: Impacts on gun markets and gun violence, 1994 2003*. Philadelphia: University of Pennsylvania.
- Mayors Against Illegal Guns. (2013). *Analysis of recent mass shootings*. Retrieved from [http://www.demandaction.org/detail/2013 09 updated analysis of recent mass shootings](http://www.demandaction.org/detail/2013%2009%20updated%20analysis%20of%20recent%20mass%20shootings)
- Morrill, L. (2014). Statement of Colorado Assistant Attorney General Leann Morrill, stipulating that the slide on a Glock 19 pistol can “stick back” due to a jam. P. 1832, transcript of ninth day of testimony, April 10, 2014, in Colorado Outfitters Association, et al., v. John W. Hickenlooper, United States District Court for the District of Colorado Civil Action No. 13 Cv 1300 Msk Mjw. Retrieved from <http://coloradoguncase.org>

- Mother Jones. (2013). *US mass shootings, 1982–2012: Data from Mother Jones' investigation*. Retrieved from <http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data>
- Reedy, D. C., & Koper, C. S. (2003). Impact of handgun types on gun assault outcomes: A comparison of gun assaults involving semiautomatic pistols and revolvers. *Injury Prevention*, 9, 151–155.
- Salzgeber, R. (2014). Trial testimony of Roger Salzgeber, April 8, 2014, in Colorado Outfitters Association, et al., v. John W. Hickenlooper, The United States District Court for the District of Colorado Civil Action No. 13 Cv 1300 Msk Mjw. Retrieved from <http://coloradogun-case.org/>
- U.S. Department of Justice Federal Bureau of Investigation. (2015, April 24). *Uniform crime reporting program data: Supplementary Homicide Reports, 2013* (ICPSR36124 v1). Ann Arbor, MI: Inter University Consortium for Political and Social Research [distributor]. doi:10.3886/ICPSR36124.v1
- U.S. Federal Bureau of Investigation. (2014a). *A study of active shooter incidents in the United States between 2000 and 2013*. Retrieved March 2, 2016, from <https://www.fbi.gov/about-us/office-of-partner-engagement/active-shooter-incidents/a-study-of-active-shooter-incidents-in-the-u.s.-2000-2013>
- U.S. Federal Bureau of Investigation. (2014b). *Crime in the United States Uniform Crime Reports*. Retrieved March 1, 2016, from <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/tables/expanded-homicide-data/expanded-homicide-data-table-8-murder-victims-by-weapon-2010-2014.xls>
- U.S. Federal Bureau of Investigation. (2015). *2014 Crime in the United States*. Retrieved from <https://ucr.fbi.gov/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/cius-home>
- Violence Policy Center. (2011). *High capacity ammunition magazines: The common thread that runs through mass shootings*. Press release dated January 11, 2011. Washington, DC: Author.
- Violence Policy Center. (2015). *Mass shootings in the United States involving high capacity ammunition magazines*. Retrieved from <http://www.vpc.org/fact-sheet/VPCshootinglist.pdf>
- Virginia Tech Review Panel. (2007). *Mass shootings at Virginia Tech*. Retrieved from <http://scholar.lib.vt.edu/prevail/docs/April16ReportRev20091204.pdf>

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EXHIBIT 26

The Volokh Conspiracy

Mostly law professors | Sometimes contrarian | Often libertarian | Always independent

About The Volokh Conspiracy 

GUNS

How powerful are AR rifles?

About the same as other rifles

DAVID KOPEL | 2.27.2023 2:37 PM

Several federal and state courts are relitigating the constitutionality of "assault weapon" bans after the Supreme Court's decision in *New York State Rifle & Pistol Association v. Bruen*. Under *Bruen*'s text-and-history test, government attorneys have argued that such laws fit within a supposed historical tradition of banning what the government calls "unusually dangerous" arms; the attorneys point to not-really-on-point historical laws about weapons such as Bowie knives or slungshots (a type of flexible hand-held impact weapon).

As detailed in a pair of previous posts, the mainstream historical tradition for controversial arms such as Bowie knives and slungshots was to forbid concealed carry, to restrict sales to minors (especially without parental consent), or to impose extra punishment for misuse. But not to prohibit possession or sales for adults. See the previous VC posts, [The legal history of bans on firearms and Bowie knives before 1900](#) and [Bowie knife statutes 1837-1899](#). Although the articles are mainly about Bowie knives, many of the quoted statutes also covered slungshots.

"Assault weapons" long have been portrayed as exceptionally powerful firearms that are far more dangerous than other modern firearms and ill-suited for lawful activities like self-defense. When enacting the nation's first "assault weapon" ban in 1989, the California legislature declared that "each firearm has such a high rate of fire and capacity for firepower that its function as a legitimate sports or recreational firearm is substantially outweighed by the danger that it can be used to kill and injure human beings."

Five federal circuit courts relied on the lethality rationale pre-*Bruen* to uphold "assault weapon" bans. The [First](#), [Second](#), and [Fourth](#) circuits asserted that "assault weapons" have "a capability for lethality—more wounds, more serious, in more victims—far beyond that of other firearms in general, including other semiautomatic guns." The [D.C. Circuit](#) claimed that "assault weapons" like AR rifles are designed "to shoot multiple human targets very rapidly" and "fire almost as rapidly as automatics." The [Seventh Circuit](#) asserted that such firearms "enable shooters to fire bullets faster" and their "spray fire" design makes them more dangerous in mass shootings. The [Fourth Circuit](#) went so far as to hold that "assault weapons" are not protected arms under the Second Amendment because of their deadly similarity to machine guns. The [First Circuit](#) cited medical sources claiming that "assault weapons" cause far more devastating wounds than other firearms and declared that using such firearms for home defense "is tantamount to using a sledgehammer to crack open the shell of a peanut."

Thus, the prohibition argument is based on 1. Rate of fire, and 2. The power of the weapons' bullets.

The rate of fire claim is preposterous. Semiautomatic rifles as a class (including those that are supposedly "assault weapons") fire at essentially the same rate as semiautomatic handguns. These handguns, from companies such as Ruger, Smith & Wesson, Springfield, or Glock, are the most common defensive firearms in the United States; under the Supreme Court's decision in *District of Columbia v. Heller*, they may not be prohibited. As then-Judge Kavanaugh argued in his dissent in *Heller II*, it is irrational to single out semiautomatic rifles for prohibition based on rate of fire, given that semiautomatic handguns are plainly constitutionally protected. *Heller v. District of Columbia*, 670 F.3d 1244 (D.C. Cir. 2011) (Kavanaugh, J., dissenting).

This post will mainly discuss the second argument: that "assault weapon" bullets are much more destructive than bullets from other firearms. This post is co-authored by Campbell University law professor Gregory Wallace, who has published two articles on "assault weapons," the most recent being *"Assault Weapon" Lethality*, 88 Tenn. L. Rev. 1 (2020). Professor Wallace and I are among the co-authors of the law school textbook *Firearms Law and the Second Amendment: Regulation, Rights, and Policy* (3d ed. 2022, Aspen Pub.)

As post-*Bruen* litigation proceeds, more absurd claims are appearing in court filings and opinions about the extreme firepower of "assault weapons" and their unsuitability for self-defense. This post discusses two such examples. The first is from the California Attorney General in *Rupp v. Bonta*, a case challenging California's "assault weapon" ban. It was remanded by the Ninth Circuit for reconsideration in light of *Bruen* and is currently pending in federal district court in California. The second is from a recent federal district court opinion in *Bevis v. City of Naperville, Illinois*, denying a preliminary injunction against state and local "assault weapon" bans.

The discussion below involves precise description of the wounding effects of different types of ammunition. If you don't want to read such things, that is your reasonable choice. Just don't make decisions about what arms persons under your direct or indirect control can possess if those decisions are based on wounding effects and you refuse to be informed about wounding effects.

I. The names of different rifles

Let's start with some nomenclature for firearms models. The "AR" in AR-15 stands for "ArmaLite Rifle." It was the 15th model invented by the ArmaLite company. The AR-17 (which never went very far) was a shotgun. The AR-15 was an improved version of the AR-10 of 1956. In 1959, ArmaLite sold the AR-15 patents to Colt's Manufacturing Company.

Colt's then produced two firearms lines from the patents. The semiautomatic AR-15 rifle was introduced to the civilian market in 1964. The M16 was an automatic (machine gun) version for military use; it was sold in large quantities to the U.S. military and became a standard infantry weapon during the Vietnam War. The M16 and AR-15 look the same, except that the M16 has a selector switch that allows the user to choose automatic fire. Internally, the M16 has components for automatic fire and the AR-15 does not. Today, the military has adopted an improved version of the M16, namely the M4 carbine. (A carbine is a relatively short rifle.)

Meanwhile, the patents that Colt's had bought from ArmaLite expired in 1977. Today, most rifle manufacturers make a rifle based on the AR platform. However, Colt's still owns the tradename "AR-15." So precisely speaking, none of the firearms from the other manufacturers can be called an "AR-15." This post, except when quoting or summarizing writings that incorrectly use "AR-15" when they mean a broader group of rifles, will simply use the term "AR" for the class of rifles that use the AR platform.

II. Colonel Tucker's expert declaration in *Rupp*

The California AG has served the *Rupp* plaintiffs with an expert report and declaration from retired Colonel Craig Tucker, U.S. Marine Corps, who served as an infantry officer for 25 years and commanded combat units in Iraq. The curriculum vitae attached to his report is impressive and his service appreciated. Colonel (Ret.) Tucker did not disclose in either his report or CV that he is a founding member of the Veterans Advisory Council to Michael Bloomberg's gun-control advocacy group Everytown for Gun Safety.

Describing the purported lethality of the civilian AR-15, the most popular target of "assault weapon" bans, the Tucker report states:

The AR-15 and M4 are both designed to fire a .223 round that tumbles upon hitting flesh and rips thru the human body. A single round is capable of severing the upper body from the lower body, or decapitation. The round is designed to kill, not wound, and both the AR-15 and M4 contain barrel rifling to make the round tumble upon impact and cause more severe injury. The combination of automatic rifle and .223 round is a very efficient killing system. The same can be said of the AR-15.

These five sentences are a cascade of errors and absurdities.

II.A. *"The AR-15 and M4 are both designed to fire a .223 round . . ."*

The Tucker declaration asserts that the M4 is "designed to fire a .223 round." In fact, the the military's M4 carbine is designed to fire the 5.56mm NATO round, not the civilian .223 Remington round. It is difficult to understand how a Marine colonel with combat infantry experience would think the M4 is designed for the .223 round.

The numbers .223 and 5.56 designate the caliber of the round based on a rough approximation of bullet diameter, which is expressed in thousandths of an inch (.223 caliber) or millimeters (5.56 caliber). The U.S. military uses the NATO designation, measured in millimeters.

While the .223 and 5.56 rounds have the same bullet diameter, there is a difference. The case for the 5.56mm has a .125-inch longer throat and thus can be loaded with additional gun powder, resulting in slightly higher performance. The military M16 and M4 are 5.56mm. Civilian guns on the AR platform are sometimes .223, but the majority are 5.56mm (still able to use .223), or other calibers. Because of the higher pressure created when fired, the 5.56 round should *not* be used in an AR rifle chambered only for the .223 round. The .223 round *can* be used in a 5.56 chamber, but may cause improper cycling (e.g., jams) with shorter barrels.

II.B. *"that tumbles upon hitting flesh and rips thru the human body."*

To understand why this statement is false requires an explanation of wound ballistics, the study of the effects of a penetrating projectile on living tissue. Dr. Martin Fackler, military trauma surgeon, former director of the Army's Wound Ballistics Laboratory, and the most widely-recognized modern expert on the subject, observed that "[p]robably no scientific field contains more misinformation than wound ballistics."

A firearm bullet is propelled by the expanding gas from a gunpowder explosion. Other things being equal, a bullet fired from a longer barrel will have higher velocity than a bullet fired from a shorter barrel. For example, a bullet that travels through a 16 inch rifle barrel will spend about four times longer being propelled by the expanding gas than will a bullet that travels through a 4 inch handgun barrel.

Bullets from AR rifles, like bullets from most other modern rifles, typically have about three times the muzzle velocity of common handgun bullets. Muzzle velocity is measured at the moment the barrel exits the bullet; as the bullet travels downrange, velocity declines due to air friction.

More velocity does not necessarily mean greater wound severity—a ping-pong ball and a bullet fired at the same muzzle velocity will produce very different effects on the target (*terminal results*).

A starting point in wound ballistics is the kinetic energy of the bullet when it strikes the target. The formula is: $KE = 1/2 \times \text{mass} \times (\text{square of the velocity})$. Other things being equal, a bullet that is twice as heavy as a different bullet will have twice the kinetic energy.

Both velocity and bullet mass contribute to kinetic energy. Rifle bullets in general strike with much higher kinetic energy than do handgun bullets, because the rifle bullets have higher velocity.

But the bullets for the most common AR calibers (.223, followed by 5.56mm) are much smaller than the bullets from many other rifles. Thus, they strike with only about a half to a third of the kinetic energy of larger caliber rifle bullets, such as .270, .30-'06, .308, .338, .444, and so on. The larger bullets not only have a greater width (*i.e.* caliber), they also typically are longer.

If we were in the year 1700, then the wound ballistics analysis would be at an end, since at the time all bullets had the same shape. They were spheres. That is why today a unit of ammunition is still called a "round." However, since the early 1800s, conoidal bullets have been the norm. The shape improves aerodynamic stability, so the bullet can travel further and with less loss of velocity.

Then as now, the location of impact and type of type of tissues disrupted along the bullet's path is more influential than kinetic energy, velocity, or mass. Today, the bullet's shape and construction materials are also very important.

Tissue damage from bullets comes primarily from the permanent *crushing* of tissue in the bullet's path. This is the *permanent cavity* (a/k/a *permanent track*).

Additionally, if the bullet is traveling fast enough, the pressure wave following the bullet can cause temporary *stretching* of tissue surrounding the bullet's path. This is the *temporary cavity* (a/k/a *temporary track*).

The size of the permanent cavity is proportional to the size of the bullet. The size of the temporary cavity can vary greatly, depending on the size and location of the temporary cavity on the bullet's path and the elasticity of the tissue affected.

More elastic tissue can absorb energy more easily, and is therefore much more resistant to injury from temporary cavitation. Such tissue includes muscle, lungs, skin, blood vessels and empty or hollow organs such as the stomach, bladder, or intestines.

Less elastic tissue, such as the brain, liver, kidney, and fluid-filled organs (*e.g.*, the heart), are more likely to shatter, rupture, or tear due to temporary cavitation. Bone fractures from temporary cavitation are rare—when a bone is shattered, it usually is due to being struck by the bullet. Injuries to extremities normally come from being hit by the bullet or bullet fragments (or bone fragments if the bone is hit) rather than by temporary cavitation.

Notwithstanding Col. Tucker's claim, the bullets fired from an AR do not "tumble[] upon hitting flesh."

Bullets never "tumble" in the ordinary sense of the word. That is, they do not perform repeated 360 degree rotations horizontally or vertically. In human tissue, an intact bullet can change the angle of penetration by up to 180 degrees, meaning that the back of the bullet is now the front. The most damage occurs when the bullet has rotated 90 degrees. Then, the entire length of the intact, nondeformed bullet disrupts tissue, thus creating a larger permanent wound cavity and a larger temporary cavity.

Changes in bullet angle are called *yaw*. While some ballistics experts distinguish horizontal changes (*yaw*) from vertical changes (*pitch*), most use "yaw" for any change in angle.

Below, we will describe how some military ammunition, with which Col. Tucker is presumably familiar, can yaw—that is, change angle by as much as 90 to 180 degrees in human tissue. What Col. Tucker does not understand is that many civilian AR users do not choose the yaw-prone 5.56mm full metal jacket ammunition that the U.S. military uses. In fact, many AR users choose ammunition that is designed *not* to yaw but instead to deform.

A bullet can yaw if it stays physically intact, retaining its shape as it moves through the target. But many bullets, especially those made for self-defense, are designed *not* to stay intact. These bullets are designed to fragment, expand, or deform when they strike a target. For simplicity, we will call such bullets "deforming bullets," because they are designed to lose their original form when they strike.

Why is deforming ammunition often chosen for defensive rifles and handguns of all types? Why do many law enforcement agencies mandate that their deputies and officers use such ammunition? The main reason is safety.

If a bullet stays intact, there can be two results: It can just come to a stop in the body. Or it can continue through the body and exit the other side, creating an *exit wound* (as opposed to an *entry wound*).

This can be a bad result for two reasons: First, the exited bullet could hit another person. For example, when Alec Baldwin shot a victim on a movie set, the bullet entered her chest, killed her, exited, and then struck and injured a second victim. In a law enforcement or self-defense situation, the bullet that exited the criminal's body might hit an innocent victim.

Second, the purpose of shooting another person is to make that person stop doing something immediately, such as perpetrating a violent felony. Therefore, all of the kinetic energy from the bullet should be delivered to the perpetrator, to increase the possibility that the bullet will stop the perpetrator.

Deforming bullets are designed to not exit the body. Instead, they are designed to impart all their kinetic energy to a single target. Because they are made not to stay intact, they do not yaw, or to use Col. Tucker's word, "tumble."

There are many varieties of deforming ammunition, based on shape, materials, and construction. For example, in a hollow-point bullet, the tip opens up like flower petals as it moves through the target. Similarly, a solid soft tip on a bullet might flatten or "mushroom." The expansion by whatever means gives the bullet a larger diameter, which crushes more tissue; it also increases the size of both the permanent and temporary cavities. When the bullet deforms or expands, it becomes blunter and thus more stable, preventing the "tumbling" described by Col. Tucker. Such bullets also can fragment in tissue, with the fragments spreading out and creating their own permanent wound tracks separate from the main wound track. These fragments greatly increase the permanent cavity size as they tear and detach tissue displaced by the temporary cavity. A deforming or fragmenting bullet from a powerful handgun can produce similar effects to tissue, resembling those from a much faster rifle bullet.

Thus, in most situations of lawful defense of self or others, deforming/expanding bullets do the best job of increasing the likelihood that the imminent or ongoing attack will be stopped, *and* of reducing the risk that an exited bullet could injure a bystander.

Most rules have exceptions. One of the situations when deforming/expanding bullets might not a preferred choice for self-defense is in bear country. Some people say that a flat-nosed, non-deforming bullet is the one with the best chance of making its way through an attacking bear's massive rib cage.

Col. Tucker's declaration provides no indication that he has any familiarity with the above: namely that civilian AR users can and often do choose AR ammunition that is specifically designed *not* to tumble.

Instead, Col. Tucker seems to mistakenly believe that all civilians users of AR rifles use the same ammunition as does the military for the M16 and M4. That ammunition is 5.56mm FMJ (full metal jacket). In a full metal jacket, the lead bullet core is surrounded by a jacket of metal. Lead is a very soft material. On the Moh's Hardness scale of 1-10, lead is 1.5—below a fingernail (2.5), penny (3.5), or diamond (10).

With unjacketed bullets, there is substantial lead abrasion due to friction as the bullet travels down the barrel. *Lead fouling* degrades accuracy. In combat situations, when a soldier might have to fire hundreds or thousands of rounds with no opportunity to clean the gun, preventing lead fouling is important. Because the full metal jacket is made of harder material than lead, much less lead abrasion builds up in the gun barrel. This is one of the reasons why full metal jacket is preferred in a military context.

For bullets that do not deform, tissue damage is (relatively) minimal as long as the bullet travels point-forward. But, as described above, some rifle bullets, such as the military 5.56 round with a full metal jacket, can yaw as much as 180 degrees, increasing wound severity. In contrast, most nondeforming handgun bullets yaw at least a little, but usually not enough to cause significant additional damage.

Nondeforming bullets from any firearm also may fragment due to stress from yawing against gravity, or after striking bone. Fragmentation increases wound severity, as described above.

In short, a nondeforming round, such as the military 5.56mm with a full metal jacket, might travel intact more or less intact through a target and could hit someone else. Or it might fragment or significantly yaw, causing greater damage.

According to the California Attorney General and Col. Tucker, the .223 round begins to instantly tumble "upon hitting flesh." As explained above, many civilian .223 or 5.56mm rounds are designed *not* to "tumble."

Suppose we revise Col. Tucker's declaration so that it applies only to the 5.56mm FMJ rounds with which he is familiar, and not to the plentitude of AR rounds of which he apparently has no knowledge. With a corrective and vastly narrowing construction, is Col Tucker accurate? That is, is it true that the 5.56 FMJ "tumbles upon hitting flesh"? Certainly not.

Dr. Fackler found that about 85% of military 5.56mm FMJ bullets travel point-forward at least five inches before beginning to yaw. The straighter the bullet hits the target, the longer it will take to yaw after it strikes. Thus, a nondeforming full metal jacket rifle bullet can pass completely through a human target without yawing or fragmenting, leaving a small wound channel and relatively mild injury unless it strikes a vital organ, bone, or other critical structure.

The M16 and M4 have always been subjects of military controversy. On the one hand, they are much more accurate, when functioning, than their Soviet counterpart rifles, such as the AK-47 and its lineage. The AK-47 is the automatic (*avtomat* in Russian) rifle invented by Mikael Kalashnikov and first manufactured in 1947. Like the M16 and M4, and unlike ARs, the AK-47 is capable of automatic fire. Compared to the AK-47, American guns are more fragile in adverse conditions, such as sand storms. The Soviet guns were built to looser tolerances (how closely the parts fit together). The result is that American rifles are more accurate when clean and Soviet rifles are less affected by dust and grit.

The modern American infantry weapons have also been controversial for another reason. Compared to the rifle ammunition issued to almost all armies past and present, the 5.56mm FMJ is unusually lightweight. This is an advantage because a soldier can carry more ammunition, and thus continue fighting longer even when resupply is not available. This is same reason that in the 18th century, American long hunters, who might be out on expeditions for months, down-graded their calibers from the standard musket calibers of .60 or .75 to the .46 or .32 of the Pennsylvania/Kentucky rifles. The less the ammunition weighs, the more one can carry.

The disadvantage is the lower the ammunition weight, the less the stopping power. As explained above, any reduction in bullet weight is exactly matched by a reduction in kinetic energy.

There have been numerous reports that the military's 5.56 FMJ round has insufficient terminal effectiveness in combat. Combat veteran and military small arms expert Jim Schatz explains, "The disturbing failure of the 5.56x45mm caliber to consistently offer adequate incapacitation has been known for nearly 20 years." He describes one Special Forces (SF) mission in Afghanistan when an insurgent was shot seven or eight times in the torso with the 5.56 round, got back up, climbed over a wall, and reengaged other SF soldiers, killing a SF medic. The insurgent then was shot another six-to-eight times from about 20-30 yards before finally being killed by a SF soldier with a handgun.

Similarly, Rob Maylor, a former Australian SAS sniper, has "on several occasions witnessed bad guys being hit multiple times by 5.56mm . . . at varying ranges and then continue[] to fight." He explains that while the 5.56 round is designed to yaw and fragment, "[t]his isn't happening all the time and as a result projectiles are passing through the body with minimal damage."

Mark Bowden's bestselling book *Black Hawk Down* gives vivid accounts of less-than-lethal performance of the Army's green-tip 5.56mm bullet (M855) in the Battle of Mogadishu in 1993. He describes one Delta operator's rounds as

passing right through his targets. When the Sammies were close enough he could see when he hit them. . . . [I]t was like sticking somebody with an ice pick. The bullet made a small, clean hole, and unless hit happened to hit the heart or spine, it wasn't enough to stop a man in his tracks. [The operator] felt like he had to hit a guy five or six times just to get his attention.

These instances are consistent with Dr. Fackler's own findings. He recounts that

[i]n 1980, I treated a soldier shot accidentally with an M16 M193 bullet from a distance of about ten feet. The bullet entered his left thigh and traveled obliquely upward. It exited after passing through about 11 inches of muscle. The man walked into my clinic with no limp whatsoever: the entrance and exit holes were about 4mm across, and punctate. X-ray films showed intact bones, no bullet fragments, and no evidence of significant tissue disruption caused by the bullet's temporary cavity. The bullet path passed well lateral to the femoral vessels. He was back on duty in a few days. Devastating? Hardly.

Dr. Fackler further notes that "[i]n my experience and research, at least as many M16 users in Vietnam concluded that [the 5.56mm] produced unacceptably minimal, rather than 'massive,' wounds."

Like any firearm, the AR rifle in typical calibers such as .223/5.56mm, can cause serious or lethal wounds, and so can other rifles, shotguns, and handguns. Wound profiles from the Army's Wound Ballistics Laboratory illustrate the permanent and temporary cavities, penetration depth, deformation, and fragmentation of both the deforming (soft-point) .223 caliber bullet, the non-deforming 5.56mm FMJ bullet, and other larger caliber bullets typically used in hunting rifles (e.g., .30-30, .308). A comparison of those profiles shows that the wounding effects of the larger caliber bullets are at least as extensive as the .223/5.56, and typically more so.

According to Dr. Fackler, the .223 Remington is "a 'varmint' cartridge, used effectively for shooting woodchucks, crows, and coyotes." Because of its smaller size, there is an ongoing debate among hunters over whether the .223 round has adequate terminal performance for taking deer or larger game. Some states ban the use of .223 caliber rifles when hunting deer and other animals larger than varmints because their rounds lack sufficient power. The ethos of hunting is to take an animal with a single fatal shot. In the views of some state game commissions, the usual AR calibers of .223 and 5.56mm are too weak; at least a .270 is required for hunting deer, antelope, or anything larger.

II.C. "A single round is capable of severing the upper body from the lower body, or decapitation."

This is the most implausible claim in Col. Tucker's report, which is made under oath and theoretical penalty of perjury. He declares that his report "is based on my own personal knowledge and experience, and, if I am called as a witness, I could and would testify competently to the truth of the matters discussed in this Report."

No one disputes that wounds from an AR rifle, like any firearm, can be fatal. That such wounds can be "capable of severing the upper body from the lower body, or decapitation" is false.

Buford Boone is the former director of the FBI's Ballistic Research Facility for 15 years and one of the world's leading authorities on internal, external, and terminal ballistics. In his [expert witness rebuttal report](#) in *Rupp v. Bonta*, he describes this claim as "so ridiculous that it should, and actually does, cast doubt on [Col. Tucker's] qualifications as an expert in the field of firearms, particularly as it relates to wound ballistics."

Col. Tucker offers no examples or authority to support his claim. No doubt he will be asked at deposition or trial whether he has personally witnessed a person being decapitated or having his upper body severed from his lower body by a single .223 or 5.56 round. Mr. Boone explains in his rebuttal report why it is unlikely Colonel Tucker can answer truthfully in the affirmative:

In almost 26 years of professional involvement in the field of wound ballistics, I have never heard, even anecdotally, of an incident wherein a person was decapitated or their upper body was severed from their lower body as a result of being shot by a single projectile fired from any small arm. ["Small arm" is a term of art to distinguish hand-carried weapons from larger arms, such as naval artillery.] It is notable that the .223/5.56 is on the lower end of terminal performance potential of the vast calibers available in centerfire rifles. In fact, the .223/5.56 is below the allowable minimum cartridges for deer hunting in some states. Additionally, since reading Colonel (Ret.) Tucker's supplemental report, I have shared that statement with many associates in the firearms field. All have questioned the credentials of an "expert" that would make such a claim. It is my opinion that no examples have been provided because such performance has never been witnessed.

Although perhaps never "witnessed," claims that "assault weapons" can decapitate or dismember have appeared in several media reports and at least one court opinion. They can be traced to a U.S. military report from Vietnam in 1962. Derivatively, an [NPR report](#) on the Uvalde murders in May 2022 describes the civilian AR as "designed to blow targets apart" and claims that "its bullets travel with such fierce velocity that they can decapitate a person." The NPR article links to an article in [The Intercept](#) that cites a military report describing how "Viet Cong fighters hit with the weapon were frequently decapitated and dismembered, many looking as though they had 'exploded.'" *The Intercept* article links to a [Gawker](#) story that quotes extensively from the military report about "how the AR-15, chambered with the same .223 ammunition that it uses today, not only killed VC soldiers but decapitated and dismembered them." In *Kolbe v. Hogan*, the Fourth Circuit cited the same military report to prove the extreme lethality of the civilian AR. Military testing, the court said, found that high-velocity projectiles from the AR caused "[a]mputations of limbs, massive body wounds, and decapitations."

However, as detailed above, the US military in Vietnam never used civilian ARs or .223 ammunition; the military used M16 rifles with 5.56mm ammunition.

The testing of the M16 with 5.56mm cited by the Fourth Circuit and some credulous media was conducted as part of Project AGILE, part of a research program in Southeast Asia initiated by the Department of Defense's Advanced Research Projects Administration (DARPA). At the time, the military was considering whether to replace the M14 (a Korean War gun) with the M16 as its primary combat rifle. [Project AGILE](#) supplied M16 rifles to South Vietnamese combat troops for field trials to determine whether the M16 would perform satisfactorily in combat. The subsequent [report](#) included claims of massive injuries from the M16's 5.56mm round, including two amputations and a decapitation.

These claims were [never confirmed](#). The Army's Wound Ballistic Laboratory at Edgewood Arsenal tested the lethality of the M16 in gelatin, animals, and cadavers but could not duplicate the "theatrically grotesque wounds" reported by Project AGILE. C.J. Chivers, a Pulitzer Prize winning *New York Times* journalist, extensively researched the testing for his book [The Gun](#). "No matter what they did," writes Chivers, "they were unable to reproduce the effects that the participants in Project AGILE claimed to have seen." As Chivers writes:

even the hollow-points [common for civilian use, but not military] failed to duplicate anything like the spectacular effects recorded by the Vietnamese unit commanders and their American advisors, which had subsequently been taken as fact and much used in the . . . campaign to sell the AR-15. [Recall that the "AR-15" was at first a marketing term for both the automatic M16 and for non-automatic rifles.]

The Wound Ballistic Laboratory's lethality study was kept secret for more than four decades, Chivers explains, with the result that "at the most important time, during the early and mid-1960s, the Project AGILE report, with its suspicious observations and false conclusions, remained uncontested." The M16 "continued to rise, boosted by a reputation for lethality and reliability that it did not deserve."

In other words, the military wanted to switch to the M16, notwithstanding complaints from many soldiers that it is underpowered. The military used the sensational Project Agile claims, including two purported instances of limb amputations and one of a decapitation, to counter the complaints about the M16's weak firepower. The military in fact knew that the claims from Project AGILE could not be true, because extensive testing by the Army's Wound Ballistic Laboratory had proven that the Project AGILE claims were not true. Nevertheless, the military insisted on adopting the M16 and suppressed the true facts reported by the Wound Ballistic Laboratory.

Dr. Fackler [recounts](#) that there were other claims in the 1960s and 70s that the M16's high velocity bullets caused "massive" and "devastating" injuries, but these claims were disproven or contradicted by other reports. Delegates to war surgery conferences in the early 1970s "reported no unusual problems associated with 'high-velocity' bullet wounds in Vietnam. There were no reports of rifle bullet wounds causing traumatic amputations of an extremity."

Combat veterans have rejected claims that .223 or 5.56 rounds are capable of beheading people. Delta operator Bob Keller said he has never seen anyone decapitated by an AR round and called the claim "bullshit." Rob O'Neill, the Navy SEAL who killed Osama bin Laden, said the claim is "100% inaccurate" and "there is no way, no way" that a .223 or 5.56 round can decapitate someone. "As a former Navy SEAL who has shot people up close with something similar to an AR-15, you don't blow their head off, it's not how it works." O'Neill added, "I shot bin Laden three times in the head up close with the same caliber and it didn't decapitate him."

In sum, Col Tucker's "expert" claim that a .223 round can cut a body in half is incorrect.

II.D. *"The round is designed to kill, not wound . . ."*

Every ordinary round—whether fired from a handgun, rifle, or shotgun—fairly can be described as "designed to kill." Some specialized rounds are marketed as "less than lethal"—e.g., rubber bullets, beanbag rounds; they typically injure and sometimes kill. No normal lead ammunition is specifically "designed to wound" and not kill. All defensive ammunition is designed to take the adversary out of the fight, and for no other purpose. The purpose can be accomplished either by killing or with a wound severe enough to incapacitate the adversary.

II.E. *"and both the AR-15 and M4 contain barrel rifling to make the round tumble upon impact and cause more severe injury."*

Here, Col. Tucker's claims become bizarre. Rifling is spiral grooves or other features on the inside surface (bore) of the barrel that spin the bullet on its longitudinal axis as it travels down the barrel. Within the bore, the raised parts are the *lands* and the flat parts are the *grooves*. By definition, every rifle contains rifling. So do almost all handguns. Rifling makes the bullet spin on its long axis, and improves aerodynamic stability. Rifling is not a feature unique to the AR; every rifle has rifling.

The purpose of rifling is to stabilize the bullet in flight, not to make the bullet tumble when it strikes. Tumbling (rotating end over end) is the opposite of stability. The higher the barrel's "twist" rate—how many inches a bullet must travel down the barrel to rotate one full turn—the more aerodynamically stable the bullet will be. Think of a football: the tighter the spiral, the faster, farther, and more accurately it will travel.

What of the M16? Very early select fire models of the AR-15 (before it became the M16) had a slow twist rate of 1:14; that is, in a 14 inch barrel, a bullet would rotate once. In a longer barrel, such as 24 inches, the bullet would still rotate less than twice. Due to Swedish objections about the slow twist rate, the first M16s put into service has a twist of 1:12. A misconception arose bullets with the 1:12 twist would yaw or tumble in flight. Dr. Fackler explains:

The notion that a common cause of increased wounding is the bullet's striking at large yaw angles (angle between the bullet's long axis and line of flight), or even sideways due to "tumbling" in flight is clearly fallacious. Anyone who has ever shot a rifle and observed the holes made by the bullet recognizes that they are round, not oblong, as would be the case if they yawed or tumbled in flight. This misconception seems attributable in large measure to misinterpretation of a report published, in 1967, by Hopkinson and Marshall. These authors presented diagrams of the yaw angles and patterns made by the bullet tip in flight. The angles on their drawings were exaggerated for clarity, showing 25 to 30 degrees rather than the 1 to 3 degrees that actually occur for properly designed bullets of small arms. . . . Thus bullet yaw in tissue, an important consideration, has been confused with bullet yaw in flight, which is, in most cases, of negligible consequence.

Dr. Fackler was describing what every target shooter knows from observation. Whether shooting near or far, and no matter what the gun, the holes in paper targets will be circles. Perhaps imperfect circles, with one side three degrees greater than the other. At whatever distance, a bullet through air only slightly deviates from a perfectly straight path, accounting for wind effects and gravity over distance.

During the 1960s, the fairly low twist rate of 1:12 did often result in yawing and fragmentation upon impact. These days, the military M4 has been improved with a 1:7 twist. (So in a 21 inch barrel, the bullet would rotate on its long axis three times before exiting the muzzle.) Civilian ARs today typically have twist of 1:7 to 1:9. Overall, there is no significant bullet yaw or pitch during flight, regardless of gun. If any occurs after penetration, that is due to the matter encountered, rather than the rifling of the gun.

Finally, Col. Tucker claims that the rifles he is denouncing (AR-15, M4) are designed for offensive combat, not self-defense:

I carried my M4 for offensive combat and a handgun for self-defense. Defensive combat is generally up close and very personal. At that range, it is very difficult to use a rifle as a defensive weapon, except as a blunt force instrument.

This will come as great surprise to the many millions of Americans who have relied on a rifle as their primary home defense arm. Granted, rifles are less maneuverable than handguns at very close quarters; even so, rifles are more accurate because they are easier to aim, more stable when held, and have longer barrels. The AR in particular has low recoil, making it easier for users with limited upper body strength to control. As explained in a pro/con article by Guncraft Training Academy, one of the advantages of an AR rifle compared to a handgun is that the AR bullet is much smaller than typical defensive handgun rounds. Hence, the bullet loses velocity sooner than does a bigger bullet when it strikes the target. Therefore, the AR bullet is less likely to *over-penetrate*—that is, to exit the criminal's body and thereby endanger other people.

III. The *Bevis v. City of Naperville* opinion

The federal district court opinion in *Bevis v. Naperville* offers a preview of how *Bruen*-defying lower courts will uphold "assault weapon" bans. The *Bevis* Judge, Virginia M. Kendall, had previously held that Chicago's ban on all public firing ranges in the city did not violate the Second Amendment. *Ezell v. City of Chicago*, 2010 WL 3998104 (N.D. Ill., Oct. 12, 2010). That decision was later reversed by the Seventh Circuit. 651 F.3d 684 (7th Cir. 2011).

In *Bevis*, Judge Kendall declared that "[a]ssault weapons pose an exceptional danger, more so than standard self-defense weapons such as handguns." She cited in support the Second Circuit's pre-*Bruen* assertion in *New York State Rifle & Pistol Ass'n v. Cuomo* that "these weapons tend to result in more numerous wounds, more serious wounds, and more victims." These claims are incorrect.

III.A. Rate of fire: "more numerous wounds . . . more victims"

Like the pre-*Bruen* circuit courts, the Judge Kendall first addressed the banned firearms' rate of fire; they "fire quickly," she said. Civilian semiautomatic-only "assault weapons" are not machine guns; they fire only one round for each pull of the trigger. While Judge Kendall initially claimed that an "assault weapon" can empty a 30-round magazine in six seconds, she conceded that a more realistic rate of fire is one round per second. At that rate, however, "assault weapons" are no more dangerous than handguns, from which an average shooter typically can fire two or three rounds a second.

III.B. Terminal effects: "more serious wounds"

Judge Kendall then described the supposedly massive wounds that "assault weapons" produce when their bullets strike, something also emphasized in the pre-*Bruen* circuit court decisions. She briefly addressed two factors—muzzle velocity and bullet penetration—to show that "assault weapons" produce more devastating wounds than other firearms. Their bullets "hit fast and penetrate deep into the body," she said.

III.B.1. Muzzle velocity

To support the first factor, the Judge Kendall claimed the muzzle velocity of an "assault weapon" is "four-times higher than a high-powered semiautomatic firearm." That claim is untrue, unsupported by the cited authority, and nonsensical. Of course rifles in general have higher velocity than handguns in general, because rifles definitionally have much longer barrels. Most handgun barrels are six inches or less; rifle barrels are, by federal law, at least 16 inches. (Rifles with shorter barrels require special registration and taxation by the Bureau of Alcohol, Tobacco, Firearms, and Explosives, pursuant to the National Firearms Act of 1934).

To say that a given rifle has greater velocity than handguns is true, but this is not in any way unique to AR rifles.

The muzzle velocity of a 55-grain .223/5.56 round from an AR is around 3200 feet-per-second (fps), while larger-caliber rounds used in hunting and other types of rifles have muzzle velocities from 2500-3000 fps. Popular 9mm, .40, and .45 caliber handgun rounds typically have muzzle velocities from 1000-1200 fps. So do most 40-grain .22 caliber rimfire long rifle (LR) rounds. (The puny .22LR is popular for both rifles and handguns; its low power makes it an excellent choice as a child's first firearm.)

At most, the muzzle velocity of an "assault weapon" is three times that of lower-velocity semiautomatic handgun round.

Judge Kendall cited an article by Dr. Peter Rhee et al. to support the "four-times higher" claim. Muzzle velocities of various firearms do not appear on the cited page (855), but do in two charts on the next page (856). Nothing in the charts or the text states or supports the "four-times higher" claim; in fact, the muzzle velocities in the article reflect those set out above. It is unclear where the judge came up with the "four-times higher" figure.

Not only is Judge Kendall's claim wrong and unsupported, it is nonsensical. She declares that the banned weapons fire four-times faster than a "high-powered semiautomatic firearm." Ban advocates and the media often refer to semiautomatic "assault weapons" as "high-powered." In target rifle competitions, all calibers above the diminutive .22 are called "high power." So competitors using a .22 rifle would compete in one class, and competitors with larger rifles would compete in a different class.

The Rhee article defines "high-velocity" bullets as those with a velocity of at least 2500 fps, while "low-velocity" bullets travel at 1200 fps or less. If an "assault weapon" and a "high-powered semiautomatic firearm" are one in the same, any comparison between the two is nonsensical.

Judge Kendall's reliance on bullet velocity to prove "assault weapons" are exceptionally dangerous misunderstands the fundamentals of wound ballistics. Her claim is really just an observation that rifles in general are more powerful than handguns in general.

II.B.2. Wound damage

While "assault weapon" bullets typically "penetrate deep into the body," Judge Kendall accurately noted, so do handgun bullets. FBI testing shows that to be reliably effective, handgun bullets must penetrate soft body tissue 12-to-18 inches, a range necessary to reach and disrupt a vital organ in a human target.

Judge Kendall offered a description of the wounding effects of "assault weapon" bullets to depict them as highly dangerous. Rather than citing scholarly articles on wound ballistics or quoting wound ballistics experts or military trauma surgeons who regularly treat rifle wounds, she relied on an NPR report and an opinion article in The Atlantic.

The NPR report was published following the Uvalde, Texas, murders. Judge Kendall quoted one doctor from the article who describes bullets from "assault weapons" as causing "cavitation" in which the projectile creates a "large cavity." But both handgun and rifle rounds can cause large temporary cavities. Dr. Fackler notes that "[t]emporary cavitation is not a modern phenomenon associated exclusively with projectiles of high velocity." He describes the temporary cavitation caused by common handgun rounds. All centerfire rifle bullets (that is, every modern round bigger than above the .22 rimfire) and large handgun bullets often cause a large temporary cavity. The size of the cavity can vary considerably, depending on the tissue in which it forms. The NPR doctor's quote describes a common characteristic of handgun and rifle wounds; it does not describe anything exceptional about "assault weapons."

Judge Kendall also quoted an op-ed in The Atlantic by a radiologist who viewed AR wounds from the Parkland shooting from her computer screen. Supposedly, the bullet "does not actually have to hit an artery to damage it and cause catastrophic bleeding."

While it is not impossible for the temporary cavity to tear a hole in an artery, it is rare. Dr. Fackler explains that "[b]lood vessels are usually simply pushed aside and are almost never disrupted by temporary cavitation." He observed one case in which the temporary cavity created by an expanding *handgun* bullet tore a hole in the aorta at its junction with the right renal artery. He writes, "*I must emphasize the extreme rarity of this case. I never published it, however, not wishing to add to the widespread wildly exaggerated effects attributed to the temporary cavity by many*" (original emphasis).

The Atlantic writer further claimed that "[e]xit wounds can be the size of an orange."

Assertions that .223/5.56 rounds create huge exit wounds often appear in media accounts. One radiologist calling for "common sense gun reform" claimed that "exit wounds associated with AR-15 firearms are often the size of grapefruits." Rep. Lucy McBath (D-Ga) declared on Twitter that "[w]ith assault rifles, exit wounds can be a foot wide," as did a trauma surgeon with military experience quoted in the *New York Times*. That same doctor offered this hyperbolic description in another media interview:

[A]s they travel through the body, [AR bullets] will destroy all the organs in the region of where they're traveling, and that's really due to the kinetic energy that those bullets impart. So, any centrally-fired weapon, if it hits anywhere in the central portion of the body, will blow a huge hole in a human being, particularly the exit wound, and it'll almost always be lethal. . . .

The average size of a navel orange, the most popular orange in the U.S., is three inches across, although some can grow as big as 4.5 inches in diameter. The average size of a grapefruit is four-to-six inches.

Studies have measured exit holes of .223/5.56 rounds in both gelatin testing and actual autopsy analysis. One study, using ballistic gelatin, found that the size and position of the temporary cavity influenced the size of the exit wound for 5.56mm NATO FMJ round. Testing showed that the exit hole reaches its maximum size if the bullet exits when the temporary cavity is at its maximum. The average size of the exit hole when the temporary cavity was maximized was 2.4 inches.

Another study examined 27 forensic autopsy records from persons shot with 5.56mm ammunition during dispersion of a mass protest in Bangkok in 2010. Twenty-three had typical entrance wounds. Exit wounds were various sizes and shapes, depending on the degree of bullet yaw and whether the bullet exited during the largest part of the temporary cavity. The six largest exit wounds in this group were two stellate (star) shape in the skull measuring 2.4 x 1.8 inches (6 x 4.5 cm) and 1.9 x 1.2 inches (5 x 3 cm), one stellate shape entering the back and exiting the abdomen measuring 1.2 x 1 inches (3 x 2.5 cm), one oval shape in the abdomen exiting in the lower back measuring 0.8 x 0.4 inches (2 x 1 cm), one oval shaped entering the back and exiting the chest measuring 0.8 x 0.4 inches (2 x 1 cm), and one stellate shape in the face exiting the neck measuring 0.6 x 0.4 inches (1.5 x 1 cm). The remaining 17 bullets in this group either exited the body without yaw, fragmented, or left no exit wounds at all. Exit wounds were small round or oval shapes measuring less than 0.4 in (1 cm).

Nine persons suffered atypical entrance wounds from bullets that destabilized before hitting the body either by ricochet or hitting an intermediate target, causing the bullets to enter the body either sideways or at an angle. One entered the skull with the resulting exit wound having stellate shape measuring 2.9 x 1 inches (7.5 x 5 cm). Another entered the lateral chest and exited the anterior chest with a stellate shape measuring 2.75 x 2.4 inches (7 x 6 cm). Two others hit extremities, one in the forearm and the other in the thigh, both with oval shaped exit wounds measuring 1.5 x 0.8 cm (0.6 x .3 cm) and 1.2 x 0.7 cm (0.5 x 0.3 in), respectively. Of the remaining five, two caused head lacerations but did not enter the skull and three had no exit wounds, but retained the bullet or bullet fragments.

None of the exit wounds in either study are the size of oranges or grapefruits.

Such misreporting is nothing new. Thirty-three years ago, Dr. Fackler described how media accounts embellished the injuries suffered by five children murdered in the 1989 elementary school shooting in Stockton, California, one of the first modern mass shootings; the crime created the national "assault weapon" controversy. Dr. Fackler did ballistics testing on the ammunition used in the criminal's semiautomatic AKM-56S rifle, whose rounds

are larger than the .223/5.56mm rounds that are most often used in ARs. Dr. Fackler also reviewed the autopsies of the children killed. He explained:

Much of the media coverage generated by the Stockton shooting has contained misstatements and exaggerations. The myth of "shock waves" resounding from these "high velocity" bullets "pulverizing bones and exploding organs" (even if they were not hit by the bullet) "like a bomb" going off in the body was repeated by the media, in certain cases even after they were furnished solid evidence that disproved these absurdities. None of the autopsies showed damage beyond the projectile path. One "expert" was quoted as stating that the death rate from "assault weapons . . . approaches 50[%]." Another, reporting on the effects of "high speed" bullets, stated that "most of those hit in an extremity will end up with amputations. If you're hit in the trunk, it becomes a lethal injury. . . ." In the Stockton schoolyard, the death rate was 14% and none of the [wounded] victims died later or required extremity amputation.

Judges should think twice about relying on unsworn, anecdotal, and hyperbolic statements gleaned from media articles produced by gun prohibition advocates.

III.B.3. *"the injury along the path of the bullet from an AR-15 is vastly different from a low-velocity handgun injury."*

This statement is generally correct, but can be misleading without more context. Rifle bullets typically do more damage to tissue than handgun bullets, but not always so, depending on where the bullets strike. A handgun round to the brain, spinal cord, heart, or other vital organ almost always will cause more serious damage than a rifle round to an extremity or other non-vital part of the torso. As Dr. Rhee explains, "[m]ost experienced trauma surgeons will testify that what part of the body is hit by [the] gun is more important than the size of the gun."

To classify a firearm as exceptionally lethal, there must be a baseline for comparison. Ban advocates and some courts attempt to make "assault weapons" like the AR seem unusually dangerous by comparing them to handguns, as seen in the quote above. The AR does fire higher-velocity bullets that impact with much greater force than handguns, but that is true of virtually *all* rifles. That handguns generally are less terminally effective than rifles is nothing new. But comparing the effects of AR bullets to handgun bullets to prove the exceptional lethality of "assault weapons" is like comparing a Prius to a Model T to prove the Prius is much faster than average automobiles.

Media articles that describe massive wounds from "assault weapons"—such as the ones quoted above—almost never describe or compare wounds caused by larger-caliber rifles or shotguns. The AR's wounding power is no more devastating than common hunting rifles, and typically less so (partly because its bullets are smaller). Dr. Fackler observes that at close range "the [twelve-gauge] shotgun (using either buckshot or a rifled slug) is far more likely to incapacitate than is a .223 rifle. The shotgun is simply a far more powerful weapon." Dr. P. K. Stefanopoulos, trauma surgeon and former career military officer who has written extensively on wound ballistics, confirms that at distances of less than ten feet "the shotgun produces the most devastating injuries of all small arms."

We agree that AR rifles, like every firearm, are dangerous when misused. The notion that AR rifles are unusually powerful compared to other rifles is false. Wounds caused by the AR typically are not more serious or lethal than wounds caused by larger-caliber hunting rifles, shotguns, and even some powerful handguns. These are demonstrable facts, supported by genuine firearms and wound ballistics experts.

This post was updated on March 20, 2023, for technical corrections in the last paragraph of II.A. and the history of twist rates in II.E.

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EXHIBIT 27



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THE PROS AND CONS OF THE HOME DEFENSE AR-15

4/30/2018

[15 Comments](#)

It's a stock statement of the gun control crowd: "No one needs an AR-15 for self-defense." We hear it during every debate on so-called "assault weapons" bans or other gun control measures. We're told that banning certain types of rifles is not inconsistent with the right to keep and bear arms, because such rifles are unsuitable for civilian use anyway.

For the purposes of this article, let's set aside any Constitutional or legal questions about the matter. Let's focus completely on the pragmatic meat of the question: Is the AR-15, or similar a rifle, well-suited for home defense and personal protection?

Like so many questions, the answer to this one is not a simple yes or no. There are pros and cons to using a rifle for self-defense, and each person must individually assess whether the rifle is the best tool for his or her particular situation.

With this in mind, let's look at some of the arguments for and against using a rifle for self-protection.

PRO #1: PLENTY OF POWER

There is a great deal of debate about the relative merits of various calibers, particularly when discussing handguns. The bottom line, however, is that handguns, regardless of the cartridge they fire, are not particularly powerful when compared to a rifle or shotgun.

If we look at the stats of a typical 9MM 124-grain FMJ, we find that the muzzle velocity of a typical round is around 1100 feet per second (fps), delivering energy of around 340 foot-pounds (ft-lbs). That's plenty of punch, but it pales in comparison to an average 55-grain .223 Remington cartridge, typical in an AR-15. That round will leave the muzzle at around 3200 fps, delivering 1250 ft-lbs of energy. That's over 3 times as much punch, and is more than sufficient to deliver fight-stopping hits to an assailant.

There are ample cases of someone being shot multiple times with a 9MM or 45ACP and continuing to fight. While it's possible that someone shot a time or two with a .223 round from an AR will continue to pose a threat, it's far less likely than with a handgun.

PRO #2: LESS OVER-PENETRATION

At this point, many people will protest "But what about over-penetration? It's just that added speed and power that makes a rifle a bad choice for home defense!" Over-penetration is a possibility, regardless of the round you are firing, which is why it is always so important to observe Universal Firearms Safety Rule #4: Be sure of your target, and what is in line with your target (including behind the target).

Actually, and perhaps counter-intuitively, over-penetration is less of a problem with .223 than it is with a typical handgun round. The reason why is because of the lighter weight of the bullet. Because the 55-grain bullet is so much lighter than the 115- or 124-grain bullets typical of 9MM cartridges, the bullet will lose velocity much faster once it hits a solid or semi-solid object. Real-world testing has corroborated this theory, and in some tests, .223 was even less prone to over-penetration than 12-gauge buckshot. If you are concerned about over-penetration, your AR-15 is actually a better choice than your Glock 22.

This video, while not a perfect test, gives one short example of 9MM penetrating further than .223/5.56.

How Many Walls Will a 5.56 and 9mm Penetrate?



PRO #3: AMMUNITION CAPACITY

There are two things you can never have enough of in a gunfight: time and ammunition. Load one magazine into your AR-15, and you've got 30 rounds of ammunition at your disposal. (Maybe 29 rounds if you buy cheap magazines.) Compare that to a typical full-sized 9MM handgun at 15 to 17 rounds, and the AR is the clear winner in the ammo capacity department.

As an added bonus, rifles make it pretty easy to store an extra magazine on the gun itself. There are an endless array of devices that you can fasten to your rifle which allow you to keep a second magazine handy, like the one pictured here. That's a total of 60 rounds, more than you can carry with three or four typical handgun magazines. (If you can't get the job done with 60 rounds, either your marksmanship sucks, or you're in more trouble than you can handle by yourself anyway.)



PRO #4: EASIER TO HIT YOUR TARGET

The longer the sight radius of your gun (that is, the distance between your rear sight and your front sight), the more sight misalignment you can get away with while still hitting your target. A rifle typically has a sight radius three or four times as long as even the longest handguns. This increased radius provides a significant marksmanship advantage in a self-defense situation.

In a gunfight, you will use what is known as a “flash sight picture” (assuming you have trained yourself to use the sights at all). This means you will align the sights just well enough to ensure you hit your adversary, seeing a momentary “flash” of the sights before firing the shot. With a handgun, the short sight radius means that a flash sight picture is only effective for a short distance, perhaps 5 yards or so. With a rifle, you can get away with imperfectly aligned sights as far away as 15 yards and still hit your threat.

PRO #5: EASY TO CONTROL AND SHOOT

When I was in Army basic training, our drill sergeant wanted to demonstrate to the platoon that the M-16 (which is the select-fire version of the AR-15) does not have an appreciable amount of felt recoil. To prove this to us, he placed the flat end of the butt-stock squarely in his crotch and fired a shot. It was a highly effective demonstration of the AR's relatively gentle recoil.

In spite of certain Vice Presidents' assertions to the contrary, the AR-15 is much easier to shoot and control than a shotgun. This works to your advantage by enabling you to fire additional follow-up shots. It also makes training with it fun and painless.

PRO #6: CUSTOMIZATION

The AR-15 has been called “Barbie doll for men”. This is not to say that the AR is not suitable for women, but rather speaks to its vast array of available options and accessories. As the most popular rifle in the United States, it has sparked a cottage industry of customization options, including everything from attachment points to zebra stripes.

This means that you can make your AR your own, in virtually every way imaginable, from butt-stock to muzzle brake, and everything in between. There is no shortage of sighting systems, attachable lights, fore-ends, grips, and stocks that allow you to make it both functional and fashionable, in your own particular taste.



Just, please... don't go overboard.

So far this seems like a lot of positive aspects stacking up in favor of the home-defense AR. So what's the bad news?

CON #1: STORAGE CONSIDERATIONS

It's important to keep your firearms safely stored, particularly if you have small children in the household. While there are many secure storage options for handguns that allow you quick access when needed, there are fewer such options for rifles. And naturally, the larger size of the gun will make it harder to store discreetly.

CON #2: IT TAKES TWO HANDS TO OPERATE

Rifles are pretty tough to shoot one-handed. This may not be much of a problem if you're barricaded in your bedroom and everyone you care about is in the room with you. It's a much bigger problem if you have to take a small child by the hand to lead her to safety. This is something to consider in light of your home defense plan.

CON #3: PRICE

A good self-defense handgun can be had for about half the price of a well-made basic AR-15. A quality pump-action shotgun will set you back even less than that. And the rifle ammunition is considerably more expensive as well. Of the three options (handgun, shotgun, or rifle), the rifle is unquestionably the most expensive. If you're on a tight budget, you might want to think about a shotgun.

CON #4: BULK

Again, the specifics of your home defense plan will determine how big of a problem this is for you. Moving around your house while trying to round up your small children can be more difficult while carrying a rifle, particularly if there are several tight corners that you will need to negotiate. If this is something your situation requires, it will take extra training on your part to ensure you can do it properly with a rifle.

CON #5: NOISE

Rifles are loud. Really, really loud. One shot fired indoors can be enough to cause immediate hearing damage.

To be fair, handguns are loud too. Firing a handgun indoors will certainly ring your bell as well. In fact, handguns and rifles are not appreciably different in terms of a straight decibel reading. However, the higher pressure wave and fuller sound spectrum of a rifle shot makes them much harder on your hearing.

This is why it's not a bad idea to keep a pair of electronic hearing protection with your home-defense gun. While there's no guarantee that you'll have the time to put them on in a critical moment, it never hurts to have the option.

CONCLUSION

In short, the AR-15 is a fine choice for a home-defense gun. While there are considerations that might lead you to choose a handgun or shotgun instead, there are plenty of qualities to recommend it as well. Don't listen to the people that tell you that you "don't need an AR-15" to protect yourself. Most of them have probably never shot one anyway.

Whichever type of gun you ultimately choose to protect your home and family, make sure you are highly proficient in its use, and well-acquainted with all considerations of self-defense shooting. [Our Defensive Rifle Course](#) will make you an expert with your rifle, guaranteed.

[Tell me more about the Guncraft Defensive Rifle Course](#)

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15 Comments

Chris Pederson ↗

3/11/2021 04:43:12 pm

I actually had no idea that your gun's sight radius determines how unaligned your sight can be and still hit the target. I'd like a gun that has a large one for sure. That way I don't have to panic about aiming too much in an emergency situation.

Reply

Taylor Hicken ↗

5/11/2021 01:37:36 am

I appreciated it when you shared that it is great to use a rifle as a means of safety protection. However, it is also important to acquire the right thing that can help protect yourself from getting shoot. I would like to think if someone is working in a dangerous environment, he should consider getting body armor from a reliable store.

Reply

Adam Golightly ↗

7/15/2021 04:12:39 pm

My aunt has been thinking about getting the right kind of defense for her home by getting some training with firearms. She would really like to get some help from a professional in order to be more effective with fewer problems. I liked what you said about how she should get the right kind of training for the firearm like being more aware of what is behind the target, and what is in its line.

Reply

EXHIBIT 28

TACTICAL > FIREARMS > RIFLES

The Patrol Rifle Necessity

Lt Frank Borelli (ret) Editorial Director

April 18 2019



Frank Borelli firing a Rockwell Arms AR-15.

[View Image Gallery](#)

In the law enforcement world, especially for patrol, the most common calibers for patrol rifles are .223/5.56mm and .308. Prior to the turn of the century, what you found was a bit more varied. The necessity of a rifle was a bit more accepted in the open spaces and there were fewer restrictions on caliber, capacity, etc. The county sheriff was as likely to have his own assortment in the trunk as was

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Rifles

Battle Rifle Co.

March 20, 2014



any one of his deputies. They had grown up around rifles and viewed them more as tools than weapons.

Inside the cities, the perception of rifles was different. When reality slapped law enforcement in the face in the form of the Columbine school attack, there was a lot of resistance to issuing officers the rifles they might potentially need for response to such events. Then the Sept. 11, 2001 terrorist attacks occurred and the reality of such events on our own soil pushed more law enforcement administrators over the edge and into the abyss of reality. Some still tried to resist by compromising and allowing their officers semi-automatic long guns chambered for handgun ammo: carbines. They justified such to resistant politicians by touting the savings of having a long gun that used the same magazines and ammo as the already issued handguns. It has felt like a long battle since then, but it seems like law enforcement is finally winning the battle to have arms suited for response to high threat situations.

In today's patrol vehicles it seems you're most likely to find a semi-automatic rifle chambered in .223. It's probably an AR-15 variant with a barrel that measures somewhere between 16" to 20". When it comes to selecting a patrol rifle for your agency the options are abundant. Virtually every major manufacturer produces a semi-automatic (and select fire variant) rifle chambered for .223.

- **SIG SAUER** offers four rifles that all meet the patrol rifle requirements. The SIG516 is the most basic and offers several options within a reasonable price point. The SIGM400 is identified as "a true AR platform exceeding military standards," and providing a plethora of options to suit agency specifications. The SIG MCX Virtus is "configurable in more than 500 combinations," making it truly modular and allowing agencies to select exactly what they need in a patrol rifle and within their budget restrictions. The SIG TREAD comes with "... all the features, all the freedom—none of the compromises."

In this article, a long gun chambered to fire a handgun cartridge will be referred to as a carbine. The term "rifle" will only be used to refer to a long gun that chambers and fires a true rifle cartridge.

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Beretta USA Corp. Feb. 23, 2023



This has its own line of accessories and is fully adaptable to any law enforcement mission.

- **Smith & Wesson** produces the M&P SPORT II rifles (and several others) that meet the demands of law enforcement at a significantly lower price point than most. Between \$400 and \$850 (per their website), there are eight variants of the S&W M&P Sport II, three of which are state-specific compliant (California, Colorado and New Jersey). Chambered for .223 and ready to accept common aftermarket optics, lights, etc. the M&P Sport II is ready to serve.
- **Springfield Armory** offers two great weapon variants that can serve, and one of which looks nothing like an “evil” AR-15. It’s amazing still that so many politicians object to a weapon due to its appearance, with zero understanding of its function. Those politicians who object to an AR-15 style rifle chambered in .223 might not object to the Springfield Armory SOCOM 16 because it doesn’t look like the rifle so often villainized by the mainstream media. That the SOCOM 16 chambers the more powerful 7.62 NATO round would be lost on them. Springfield Armory also produces the SAINT line of AR style rifles in 5.56 NATO with a few of them also available in .300 Blackout.
- **Doublestar**, a not-so-well-known manufacturer of high quality rifles, sorts their rifles into two categories: carbine length and rifle length. (Note that “carbine” here does not indicate handgun caliber.) With five of the 17 rifles priced under \$1,000 and only three priced over \$2,000 (special purpose rifles), the majority of their products are between that price range. For me, that puts them squarely in the correct price range for a good quality duty rifle. Like every other contemporary manufacturer, these rifles are ready to accept after-market accessories and to be built/customized for an officer’s individual or agency’s need.
- **Battle Rifle Company** is another not-so-well-known company that produces high quality rifles for the law enforcement community. They manufacture at least nine different AR-style rifle models that would be suitable for law enforcement use. With model names like Spartan, Trident and Defender, the company obviously produces rifles meant for sheepdogs—those of us who stand in the gap and face down (or hunt down) the bad guys who would prey on the weak and innocent.

With such a wide variety of high quality weapons available, and at pricing that is more than reasonable, it's difficult to understand why some government entities (municipal, county or state) would still be resistant to the idea of having their officers properly armed to defeat significant threats. The issued handgun may be great for threats within 25 yards, and they are certainly more convenient and less threatening in appearance to carry, but most schools have hallways far longer than that, and it's an unfortunate reality that today's officers need to be armed to address threats at the distance dictated by circumstance.

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EXHIBIT 29



Chicago Police Department

Uniform and Property U04-02-05

POLICE CARBINE OPERATOR PROGRAM

| | | | |
|------------------------|--------------------------------------|------------------------|------------------|
| ISSUE DATE: | 02 February 2015 | EFFECTIVE DATE: | 02 February 2015 |
| RESCINDS: | 17 June 2014 Version | | |
| INDEX CATEGORY: | Uniform and Equipment Specifications | | |

I. PURPOSE

This directive:

- A. continues the:
 - 1. [Police Carbine Operator Program](#).
 - 2. [Carbine Operator Course](#).
 - 3. [Carbine Operator Requalification Course](#).
 - 4. [Carbine Familiarization Course](#).
 - 5. [Personal Carbine Operator Zeroing Course](#).
- B. provides specifications for:
 - 1. Department-issued [carbines](#).
 - 2. personally owned duty carbines.
 - 3. ammunition.
 - 4. optional accessories.
- C. delineates responsibilities and procedures for the training, maintenance, transport, security, and use of Department-approved carbines.
- D. defines certain terms relative to this directive.

II. POLICY

- A. The [Police Carbine Operator Program](#) is provided to enhance the Department's ability to protect the lives, property, and rights of all people, to maintain order, and to enforce the laws impartially. Additionally, the program enhances officer safety in high-threat confrontations involving heavily armed or multiple offenders, active shooting incidents, and violent offenders who are utilizing body armor, shielding, or distances beyond reasonable pistol range.
- B. [Police carbine operators](#) may [arm](#) themselves with a [carbine](#) when:
 - 1. the operator reasonably believes that he or she is confronting or may soon confront a threat that may require the use of deadly force; and
 - 2. consistent with the carbine operator's training, the carbine is the appropriate firearm for the situation.

NOTE: The nature of the assignment or situation can be enough to warrant the operator's actions.

III. GENERAL INFORMATION

- A. The [Police Carbine Operator Program](#) authorizes qualified members to [deploy](#) and [arm](#) themselves with either a Department-issued [carbine](#) or a personal duty carbine while on routine patrol.
- B. The program is open to all sworn members who meet the requirements established in this directive.
- C. The [Carbine Operator Course](#), [Carbine Familiarization Course](#), and [Carbine Requalification Course](#), are in-service training programs. The content and parameters of these courses will be determined by the Deputy Chief, Education and Training Division.
- D. After successfully completing the Carbine Operator Course, members must complete the Carbine Operator Requalification Course once between 01 January to 30 June and again once between 01 July and 31 December to maintain their qualification status.

NOTE: Any member who fails to successfully complete the Carbine Operator Requalification Course within the timeframe established in this directive will not be authorized to deploy with a police carbine until that member successfully completes a recertification course.

- E. Members are expected to exercise the same high level of judgment as they would with their handguns and be mindful of public perception.
- F. Members are not required to complete any documentation solely for arming themselves with a carbine.
- G. Sergeants and lieutenants are encouraged to attend training to be qualified as [police carbine operators](#). However, supervisors are not required to be carbine-operator qualified to supervise and enforce compliance with this directive.
- H. Upon written authorization of the Chief, Bureau of Patrol, Department members assigned to SWAT will not be limited by any provisions of this directive.

IV. CARBINE FAMILIARIZATION COURSE

To ensure compliance with the [Police Carbine Operator Program](#), Bureau of Patrol exempt members will ensure that any members within their command whose duties include handling [carbines](#) attend the [Carbine Familiarization Course](#).

V. PROGRAM QUALIFICATIONS

To qualify for the [Police Carbine Operator program](#), sworn members must be in full-duty nonprobationary status.

VI. APPROVED CARBINES AND AMMUNITION - SPECIFICATIONS

- A. Department-issued [carbines](#) will conform to the following specifications:
 - 1. AR-15/M-4 type, semiautomatic carbine chambered in 5.56 mm;
 - 2. A minimum 16-inch barrel, not to exceed 20 inches, with a 1/7 to 1/9 twist;
 - 3. Single-stage triggers with a minimum 5-pound trigger pull;
 - 4. Telescoping or fixed stock;
 - 5. Adjustable [tactical sling](#);
 - 6. Iron sights;

NOTE: Department-issued carbines will have iron sights only, with a secure effective [zero](#) for any Department member issued the carbine.

- 7. Ambidextrous safeties may be installed to support left and right side operation;
- 8. Two magazines (20 or 30 round capacity);

9. Approved (optional) magazine carrier.
10. No modifications or adjustments will be made to the carbines other than those completed by a member of the Firearms Training Unit, Education and Training Division.
11. Attached flash suppressor.

B. Personally Owned Duty Carbines

Personally owned duty carbines will conform to the following specifications:

1. An AR-15/M-4 type, semiautomatic carbine, primarily black in color, chambered in 5.56 mm.
2. Complete rifles manufactured by one of the following:
 - a. Colt
 - b. Smith & Wesson
 - c. Bushmaster
 - d. Defense Procurement Manufacturing Services (DPMS)
 - e. Rock River
 - f. Lewis Machine & Tool
 - g. DS Arms
 - h. Armalite
 - i. L.W.R.C.
 - j. LaRue Tactical
 - k. Ruger
 - l. Saber Defense
 - m. Stag Arms
 - n. Daniel Defense
 - o. CMMG
 - p. Spike's Tactical.
3. A minimum 16-inch barrel, not to exceed 20 inches, with a 1/7 to 1/9 twist;
4. Single-stage triggers with a minimum 5-pound trigger pull;
5. Telescoping or fixed stock;
6. Adjustable tactical sling;
7. Two magazines (20 or 30 round capacity) as follows:
 - a. polymer, aluminum, or stainless steel
 - b. self-leveling followers.
8. One [ChamberSafe](#).
9. The component parts on the [personal carbines](#) **must** be of such size as to be securable in the Department's vehicle gun locks.
10. Iron sights
 - a. At the members' discretion, carbines may be equipped with an [optical sighting system](#), but the carbine must also be equipped with a fixed or flip-up rear iron sight that has the same effective zero as the optical sighting system and can be utilized quickly if the optical sighting system fails.
 - b. Members must zero their carbines at a Department range under instructor supervision for both iron sights and, if applicable, optical sighting systems.

11. **Before any personally owned duty carbine is authorized for on-duty use, the carbine must be registered as a duty weapon and zeroed in the presence of a Chicago Police Department carbine instructor consistent with the Personal Carbine Operator's Zeroing Course.**
12. Attached flash suppressor.
13. The use or addition of a compensator is prohibited.
- C. Optional accessories for personally owned duty carbines
 1. Optical sighting systems
 - a. The following optical sighting systems (without magnification):
 - (1) Aimpoint Comp M, Comp ML, Pro, and Micro series
 - (2) EOTech HWS Series / "Bushnell's" EOTech
 - (3) Trijicon
 - (4) C-More Systems
 - (5) Meprolight Mepro21
 - (6) Leopold Tactical Prismatic.
 - (7) Elcan SpecterRD
 - (8) Bushnell TRS-25
 - b. The following optical sighting system with magnification power of 1.50 or less: Trijicon.

NOTE: Optical sighting systems with magnification of 1.50 power or less must be mounted in such a way that they can be easily removed, without tools, if an optical sighting system fails.
 2. D-fender D-Ring for extractor enhancement;
 3. Ambidextrous selector lever;
 4. A mounted **department approved flashlight**;

NOTE: A remote pressure switch for a department approved flashlight mounted on a carbine is permitted.
 5. A mounter vertical foregrip
 6. Any other accessories must be approved by the Deputy Chief, Education and Training Division, or their designee. **Subsequent modifications to the carbine require a recertification of the carbine.**
 7. Lasers, bipods, or competition muzzle breaks **are not** authorized on any Department-approved duty carbines.
 8. For any articulable reason regarding safety, the Deputy Chief, Education and Training Division, (or designee), has the authority to deny authorization of any personally owned carbine.
- D. Authorized Ammunition
 1. Department members will load only the following Department-approved ammunition :
 - a. 55 grain full metal jacket manufactured by one of the following:
 - (1) Remington/UMC

- (2) Winchester
 - (3) Federal/Lake City Arsenal
 - (4) Hornady
 - (5) CCI-Speer.
- b. 64 grain Winchester Power-Point

NOTE: Tungsten, steel, or frangible ammunition is not approved.

2. Department members will be issued the appropriate amount of duty ammunition to load two Department-approved magazines upon qualification and once each year thereafter.

VII. CARBINE REGISTRATION PROCEDURES

A. Prior to registering personally owned duty [carbines](#), members will:

- 1. present a completed Firearms Registration Application (CPD-31.562) to the member's station supervisor for approval.
- 2. submit the Firearms Registration Application in accordance with the Department directive entitled "**Department Approved Weapons and Ammunition.**"

NOTE: Members will not carry or deploy their carbine until after the Police Carbine Operator Program has been completed.

- 3. submit a To-From-Subject report to the Commanding Officer, Gun Registration Unit, detailing the:
 - a. successful completion of the forty-hour [Carbine Operator Course](#) session dates,
 - b. Police Carbine Operator [Personal Carbine Zeroing Course](#) date, and
 - c. lead instructor's name.

B. The Gun Registration Unit, Records Services Division, will:

- 1. upon receiving a Firearms Registration Application for a personally owned duty carbine, designate the carbine as "registration pending."
- 2. upon confirmation from the Firearms Training Unit, Education and Training Division, that the requesting member is a qualified [police carbine operator](#) and the carbine has been [zeroed](#), designate the carbine as "registered."

NOTE: Upon successful completion as a qualified carbine operator, the weapon will be classified as a duty weapon.

VIII. TRAINING

A. The Deputy Chief, Education and Training Division, will ensure continuous and regular schedules are maintained for the in-service:

- 1. [Police Carbine Operator Course](#)
- 2. [Carbine Familiarization Course](#)
- 3. [Police Carbine Operator Requalification Course](#)
- 4. [Police Carbine Operator Personal Carbine Zeroing Course.](#)

- B. The Deputy Chief, Education and Training Division, or the authorized designee will determine which members assigned to field duties have priority in attending the Police Carbine Operator Course.

NOTE: All requests will require station supervisor approval.

- C. Course registration

1. Members seeking to register for the Carbine Operator Course or the Carbine Operator Requalification Course will use the In-Service Training module of the CLEAR application.
2. Members seeking to register for the Carbine Operator Familiarization Course or the [Personal Carbine Operator Zeroing Course](#) will use the eLearning module under Training Resources.

- D. Members will be notified of scheduled training via the automated notification system.

IX. RESPONSIBILITIES AND PROCEDURES

- A. Requirements

1. Members who successfully complete the [Police Carbine Operator Program](#) are required to [deploy](#) with either a Department-issued [carbine](#) or a personally owned duty carbine during regular field duties.
2. Supervisors have the authority to order a member at any time to secure a carbine in a vehicle gunlock at the scene of an incident. However, supervisors will not prevent qualified members from deploying from a unit of assignment with a carbine unless the:
 - a. nature of the assignment clearly indicates that it is inappropriate to do so (e.g., a parade detail).
 - b. member is displaying unsafe or inappropriate carbine-handling skills.

NOTE: The supervisor will document this on a To-From-Subject report addressed, through the chain of command, to the Deputy Chief, Education and Training Division.

- c. unit does not have a vehicle with an operational gun lock available.

NOTE: Station supervisors will make every effort to match qualified officers wishing to deploy a carbine with a vehicle that has a gun lock.

- d. member is assigned to participate in the execution of a search warrant. In this case, the search team supervisor will have final authority in determining who, if anyone, will be equipped with a carbine.

NOTE: Search Team supervisors will consult with a SWAT supervisor when high-risk entries are anticipated.

- B. Securing and Issuing Department-Owned Carbines

1. Department-owned carbines and magazines will be stored in locked racks in the secure location designated by the district/unit commander.
2. The [ChamberSafe](#) will remain in the carbine with the bolt eased forward.
3. The selector lever will be on safe and a magazine loaded two rounds short of full capacity.
4. At the start of each tour of duty, a station supervisor or their designee will issue a carbine and two magazines to members qualified as carbine operators.
 - a. Department vehicles will have one gunlock; only one carbine per vehicle will be authorized for routine field duties.

- b. If two or more officers assigned to a vehicle are qualified, either officer may be [armed](#) with the carbine.

NOTE: If a personal carbine has been placed in the vehicle's gunlock, only the owner will arm that carbine unless exigent circumstances exist. If exigent circumstances exist, either qualified member assigned to the vehicle may be armed with the carbine.

- c. The station supervisor has final authority to determine which member will deploy with a carbine should there be two officers on the same beat with personally owned carbines.

5. Members issued carbines will sign out the carbine using the Personal Equipment Log (CPD-21.919).

C. Department Vehicle Storage

1. The carbine will be secured in the designated vehicle gunlock installed in the Department vehicle.
2. Carbines will not be left in Department vehicles between watches or overnight.

D. Securing Personally Owned Duty Carbines

1. Personally owned duty carbines will be transported to and from duty assignments or secured in an assigned unit locker as follows:
 - a. the selector lever on safe;
 - b. a ChamberSafe inserted;
 - c. the magazine well empty; and
 - d. secured in a plain black padded nylon bag or hard case.
2. Members transporting carbines to and from duty assignments are responsible for its security. Members are prohibited from leaving carbines unattended in their personal vehicles.
3. Members are responsible for securing their duty carbines at home in the same manner as their duty handguns as delineated in the Department directive entitled, "**Department Approved Weapons and Ammunition**," and are required to exercise sound judgment and caution to prevent unauthorized access to firearms.

E. Issuance of Carbines

1. Carbines will be issued with **no round in the chamber**, a [ChamberSafe](#) device placed in the chamber and visible from the ejection port, and one loaded magazine remaining in the magazine well.
2. All police carbines, whether Department-issued or personally owned, will have a minimum of two magazines (20 or 30 round capacity), each loaded two rounds short of capacity.

NOTE: Magazines are loaded two rounds short of full capacity to ensure proper seating of the magazine.

3. Unless authorized by a supervisor, carbines will be properly secured in the gunlock located in the Department vehicle.

NOTE: Station supervisors will ensure that police carbine operators are given priority assignment to Department vehicles equipped with gunlocks.

4. Whenever possible, members will notify the dispatcher when they are assigned to citizen-dress field operations and are arming themselves with carbines.

F. Carbine Arming

1. When arming a carbine, members will:
 - a. unlock the gunlock and remove the carbine;
 - b. remove the ChamberSafe; and
 - c. chamber a round while pointing the carbine in a safe direction with the finger off the trigger.
2. The carbine will remain on safe and the finger off the trigger until the operator has made the decision to fire.
3. Members will utilize a [tactical sling](#) whenever carrying a carbine.
4. Members will make every reasonable effort to avoid making physical contact with an offender while carrying a carbine. Members carrying carbines will act in a cover-officer capacity whenever possible.
5. Members assigned to citizen-dress field operations will have clearly visible identification, utilizing a warrant team vest or other appropriate Department-approved specialized personal garment.
6. Upon termination of the event in which the carbine was armed, the operator will:
 - a. when clearing the weapon, relocate to a safe and discrete location minimizing the likelihood of personal injury or property damage in the event of an unintentional discharge.
 - b. inspect the unchambered round and remove it from service if damage or defects are observed.

G. Carbine Accessibility

1. Members may carry an armed carbine in the passenger compartment of a vehicle, with the selector in the "safe" position, when:
 - a. assigned to a directed mission, **and**
 - b. the assigned mission consists of two or more vehicles, **and**
 - c. the member is under the direct supervision of a member the rank of sergeant or higher.

NOTE: The supervisor assigned to the directed mission will determine which members are authorized to carry the armed carbine in the passenger compartment of a vehicle, consistent with that on-scene supervisor's training.

2. Members traveling to and from the location where a search warrant is to be executed may transport an armed carbine in the passenger compartment of a vehicle, with the selector in the "safe" position.

H. Care and Maintenance

1. Members are responsible for the care and maintenance of their personally owned duty carbines.
2. All qualified members are responsible for the care and maintenance of Department carbines within their control, including cleaning them after firing.

3. All other maintenance will be the responsibility of the Firearms Training Unit, Education and Training Division.

NOTE: The Firearms Training Unit, Education and Training Division, will be responsible for the routine inspection and repair of Department-owned carbines except those assigned to SWAT.

I. Recertification

Department members certified as police carbine operators are responsible for keeping their certification current.

(Items indicated by *italics/double underline* were added or revised.)

Authenticated by: JKH

Garry F. McCarthy
Superintendent of Police

14-177 PJE

GLOSSARY TERMS:

1. **Police Carbine Operator Program**

The overall program developed by the Department for the approval, procurement, training, security, issuance, use, and maintenance of Department-approved carbines.

2. **Carbine Operator Course**

A voluntary five-day course members must initially pass to be qualified to participate in the Police Carbine Operator Program.

3. **Carbine Operator Requalification Course**

A block of training required for members in the Police Carbine Operator Program. This course is taken subsequent to the Carbine Operator Course and must be completed to maintain qualification.

4. **Carbine Familiarization Course**

A block of instruction relative to the safe handling, loading, and unloading of the carbine as well as placement and removal from gun racks and locks.

5. **Personal Carbine Operator Zeroing Course**

A block of instruction required for police carbine operators who own personal carbines that must be zeroed before approval for duty use.

6. **Carbine**
A short-barreled, lightweight semiautomatic rifle.
7. **Police Carbine Operator**
A member trained by the Department to be armed with a carbine while assigned to routine field duties.
8. **Arm/Arming**
Removing a carbine from a Department vehicle and chambering a round.
9. **Deployment**
The act of issuing / placing a carbine into a Department vehicle gun lock for duty.
10. **Tactical Sling**
A device used to carry the rifle in a hung position in front of the body.
11. **Zero/Zeroed**
At a prescribed distance, the point of aim is aligned with the point of bullet impact.
12. **ChamberSafe®**
A high-visibility device, normally orange in color, used to readily identify, from a distance, that a rifle chamber is empty and safe.
13. **Personal Carbine**
A duty carbine purchased, registered, and owned by a member participating in the Police Operator Carbine Program.
14. **Optical Sighting System**
A device mounted or attached to a rifle that assists a shooter with quick target acquisition. An optical sighting system is **NOT a laser sight**.

EXHIBIT 30

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ARMED RESISTANCE TO CRIME: THE PREVALENCE AND NATURE OF SELF- DEFENSE WITH A GUN*

GARY KLECK
MARC GERTZ

I. INTRODUCTION

Crime victims used to be ignored by criminologists. Then, beginning slowly in the 1940s and more rapidly in the 1970s, interest in the victim's role in crime grew. Yet a tendency to treat the victim as either a passive target of another person's wrongdoing or as a virtual accomplice of the criminal limited this interest. The concept of the victim-precipitated homicide¹ highlighted the possibility that victims were not always blameless and passive targets, but that they sometimes initiated or contributed to the escalation of a violent interaction through their own actions, which they often claimed were defensive.

Perhaps due to an unduly narrow focus on lower-class male-on-male violence, scholars have shown little openness to the possibility that a good deal of "defensive" violence by persons claiming the moral status of a victim may be just that. Thus, many scholars routinely assumed that a large share of violent interactions are "mutual combat" involving two blameworthy parties who each may be regarded as both offender and victim. The notion that much violence is one-sided and that many victims of violence are largely blameless is dismissed as naive.

A few criminologists have rejected the simplistic mutual combat model of violence, though they sometimes limit its rejection to a few special subtypes of violence, especially family violence, rape, and, more generally, violence of men against women and of adults against

* The authors wish to thank David Bordua, Gary Mauser, Seymour Sudman, and James Wright for their help in designing the survey instrument. The authors also wish to thank the highly skilled staff responsible for the interviewing: Michael Trapp (Supervisor), David Antonacci, James Belcher, Robert Bunting, Melissa Cross, Sandy Hawker, Dana R. Jones, Harvey Langford, Jr., Susannah R. Maher, Nia Mastin-Walker, Brian Murray, Miranda Ross, Dale Sellers, Esty Zervigon, and for sampling work, Sandy Grguric.

¹ MARVIN E. WOLFGANG, *PATTERNS IN CRIMINAL HOMICIDE* 245 (1958).

children.² However, the more one looks, the more exceptions become evident, such as felony killings linked with robberies, burglaries, or sexual assaults, contract killings, mass killings, serial murders, and homicides where the violence is one-sided. Indeed, it may be more accurate to see the mutual combat common among lower-class males to be the exception rather than the rule. If this is so, then forceful actions taken by victims are easier to see as genuinely and largely defensive.

Once one turns to defensive actions taken by the victims of property crimes, it is even easier to take this view. There are few robberies, burglaries, larcenies, or auto thefts where it is hard to distinguish offender from victim or to identify one of the parties as the clear initiator of a criminal action and another party as a relatively legitimate responder to those initiatives. The traditional conceptualization of victims as either passive targets or active collaborators overlooks another possible victim role, that of the active resister who does not initiate or accelerate any illegitimate activity, but uses various means of resistance for legitimate purposes, such as avoiding injury or property loss.

Victim resistance can be passive or verbal, but much of it is active and forceful. Potentially, the most consequential form of forceful resistance is armed resistance, especially resistance with a gun. This form of resistance is worthy of special attention for many reasons, both policy-related and scientific. The policy-related reasons are obvious: if self-protection with a gun is commonplace, it means that any form of gun control that disarms large numbers of prospective victims, either altogether, or only in certain times and places where victimization might occur, will carry significant social costs in terms of lost opportunities for self-protection.

On the other hand, the scientific reasons are likely to be familiar only to the relatively small community of scholars who study the consequences of victim self-protection: the defensive actions of crime victims have significant effects on the outcomes of crimes, and the effects of armed resistance differ from those of unarmed resistance. Previous research has consistently indicated that victims who resist with a gun or other weapon are less likely than other victims to lose their property in robberies³ and in burglaries.⁴ Consistently, research also has

² Richard A. Berk et al., *Mutual Combat and Other Family Violence Myths*, in *THE DARK SIDE OF FAMILIES 197* (David Finkelhor et al. eds., 1983).

³ See generally MICHAEL J. HINDELANG, *CRIMINAL VICTIMIZATION IN EIGHT AMERICAN CITIES* (1976); Gary Kleck, *Crime Control Through the Private Use of Armed Force*, 35 *SOC. PROBS.* 1 (1988); Gary Kleck & Miriam A. DeLone, *Victim Resistance and Offender Weapon Effects in Robbery*, 9 *J. QUANTITATIVE CRIMINOLOGY* 55 (1993); Eduard A. Ziegenhagen & Dolores

indicated that victims who resist by using guns or other weapons are less likely to be injured compared to victims who do not resist or to those who resist without weapons. This is true whether the research relied on victim surveys or on police records, and whether the data analysis consisted of simple cross-tabulations or more complex multivariate analyses. These findings have been obtained with respect to robberies⁵ and to assaults.⁶ Cook⁷ offers his unsupported personal opinion concerning robbery victims that resisting with a gun is only prudent if the robber does not have a gun. The primary data source on which Cook relies flatly contradicts this opinion. National Crime Victimization Survey (NCVS) data indicate that even in the very disadvantageous situation where the robber has a gun, victims who resist with guns are still substantially less likely to be injured than those who resist in other ways, and even slightly less likely to be hurt than those who do not resist at all.⁸

With regard to studies of rape, although samples typically include too few cases of self-defense with a gun for separate analysis, McDermott,⁹ Quinsey and Upfold,¹⁰ Lizotte,¹¹ and Kleck and Sayles¹² all found that victims who resisted with some kind of weapon were less likely to have the rape attempt completed against them. Findings concerning the impact of armed resistance on whether rape victims suffer additional injuries beyond the rape itself are less clear, due to a lack of information on whether acts of resistance preceded or followed the rapist's attack. The only two rape studies with the necessary sequence information found that forceful resistance by rape victims usually follows, rather than precedes, rapist attacks inflicting additional injury, undercutting the proposition that victim resistance increases the likelihood that the victim will be hurt.¹³ This is consistent with findings on robbery and assault.¹⁴

Brosnan, *Victim Responses to Robbery and Crime Control Policy*, 23 CRIMINOLOGY 675 (1985).

⁴ See generally Philip J. Cook, *The Technology of Personal Violence*, 14 CRIME & JUST.: ANN. REV. RES. 1, 57 (1991).

⁵ Ziegenhagen & Brosnan, *supra* note 3; Kleck *supra* note 3; Kleck & DeLone, *supra* note 3.

⁶ Kleck, *supra* note 3.

⁷ Cook, *supra* note 4, at 58.

⁸ Kleck & DeLone, *supra* note 3, at 75.

⁹ JOAN M. McDERMOTT, RAPE VICTIMIZATION IN 26 AMERICAN CITIES (1979).

¹⁰ Quinsey & Upfold, *Rape Completion and Victim Injury as a Function of Female Resistance Strategy*, 17 CAN. J. BEHAV. SCI. 40 (1985).

¹¹ Alan J. Lizotte, *Determinants of Completing Rape and Assault*, 2 J. QUANTITATIVE CRIMINOLOGY 203 (1986).

¹² Gary Kleck & Susan Sayles, *Rape and Resistance*, 37 SOC. PROBS. 149 (1990).

¹³ Quinsey & Upfold, *supra* note 10, at 46-47. See generally Sarah E. Ullman & Raymond A. Knight, *Fighting Back: Women's Resistance to Rape*, 7 J. INTERPERSONAL VIOLENCE 31 (1992).

¹⁴ See Kleck, *supra* note 3, at 9.

II. THE PREVALENCE OF DEFENSIVE GUN USE (DGU) IN PREVIOUS SURVEYS

A. THE NATIONAL CRIME VICTIMIZATION SURVEY (NCVS)

However consistent the evidence may be concerning the effectiveness of armed victim resistance, there are some who minimize its significance by insisting that it is rare.¹⁵ This assertion is invariably based entirely on a single source of information, the National Crime Victimization Survey (NCVS).

Data from the NCVS imply that each year there are only about 68,000 defensive uses of guns in connection with assaults and robberies,¹⁶ or about 80,000 to 82,000 if one adds in uses linked with household burglaries.¹⁷ These figures are less than one ninth of the estimates implied by the results of at least thirteen other surveys, summarized in Table 1, most of which have been previously reported.¹⁸ The NCVS estimates imply that about 0.09 of 1% of U.S. households experience a defensive gun use (DGU) in any one year, compared to the Mauser survey's estimate of 3.79% of households over a five year period, or about 0.76% in any one year, assuming an even distribution over the five year period, and no repeat uses.¹⁹

The strongest evidence that a measurement is inaccurate is that it is inconsistent with many other independent measurements or observations of the same phenomenon; indeed, some would argue that this is ultimately the *only* way of knowing that a measurement is wrong. Therefore, one might suppose that the gross inconsistency of the NCVS-based estimates with all other known estimates, each derived from sources with no known flaws even remotely substantial enough to account for nine-to-one, or more, discrepancies, would be sufficient to persuade any serious scholar that the NCVS estimates are unreliable.

Apparently it is not, since the Bureau of Justice Statistics continues to disseminate their DGU estimates as if they were valid,²⁰ and scholars continue to cite the NCVS estimates as being at least as rea-

¹⁵ Cook, *supra* note 4; David McDowall & Brian Wiersema, *The Incidence of Defensive Firearm Use by U.S. Crime Victims, 1987 Through 1990*, 84 AM. J. PUB. HEALTH 1982 (1994); UNDERSTANDING AND PREVENTING VIOLENCE 265 (Albert J. Reiss & Jeffrey A. Roth eds., 1993).

¹⁶ Kleck, *supra* note 3, at 8.

¹⁷ Cook, *supra* note 4, at 56; MICHAEL R. RAND, BUREAU OF JUSTICE STATISTICS, GUNS AND CRIME (Crime Data Brief) (1994).

¹⁸ See Kleck, *supra* note 3, at 3; GARY KLECK, POINT BLANK: GUNS AND VIOLENCE IN AMERICA 146 (1991).

¹⁹ Gary A. Mauser, Firearms and Self-Defense: The Canadian Case, Presented at the Annual Meetings of the American Society of Criminology (Oct. 28, 1993).

²⁰ RAND, *supra* note 17.

sonable as those from the gun surveys.²¹ Similarly, the editors of a report on violence conducted for the prestigious National Academy of Sciences have uncritically accepted the validity of the NCVS estimate as being at least equal to that of all of the alternative estimates.²² In effect, even the National Academy of Sciences gives no more weight to estimates from numerous independent sources than to an estimate derived from a single source which is, as explained below, singularly ill-suited to the task of estimating DGU frequency.

This sort of bland and spurious even-handedness is misleading. For example, Reiss and Roth withheld from their readers that there were at least *nine* other estimates contradicting the NCVS-based estimate; instead they vaguely alluded only to “a number of surveys,”²³ as did Cook,²⁴ and they downplayed the estimates from the other surveys on the basis of flaws which they only speculated those surveys *might* have. Even as speculations, these scholars’ conjectures were conspicuously one-sided, focusing solely on possible flaws whose correction would bring the estimate down, while ignoring obvious flaws, such as respondents (Rs) forgetting or intentionally concealing DGUs, whose correction would push the estimate up. Further, the speculations, even if true, would be wholly inadequate to account for more than a small share of the enormous nine-to-one or more discrepancy between the NCVS-based estimates and all other estimates. For example, the effects of telescoping can be completely cancelled out by the effects of memory loss and other recall failure, and even if they are not, they cannot account for more than a tiny share of a discrepancy of nine-to-one or more.

Equally important, those who take the NCVS-based estimates seriously have consistently ignored the most pronounced limitations of the NCVS for estimating DGU frequency. The NCVS is a non-anonymous national survey conducted by a branch of the federal government, the U.S. Bureau of the Census. Interviewers identify themselves to Rs as federal government employees, even displaying, in face-to-face contacts, an identification card with a badge. Rs are told that the interviews are being conducted on behalf of the U.S. Department of Justice, the law enforcement branch of the federal government. As a preliminary to asking questions about crime victimization experiences, interviewers establish the address, telephone number, and full names of all occupants, age twelve and over, in each house-

²¹ Cook, *supra* note 4, at 56; McDowall & Wiersema, *supra* note 15.

²² UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 15, at 265-66.

²³ *Id.* at 265.

²⁴ Cook, *supra* note 4, at 54.

hold they contact.²⁵ In short, it is made very clear to Rs that they are, in effect, speaking to a law enforcement arm of the federal government, whose employees know exactly who the Rs and their family members are, where they live, and how they can be recontacted.

Even under the best of circumstances, reporting the use of a gun for self-protection would be an extremely sensitive and legally controversial matter for either of two reasons. As with other forms of forceful resistance, the defensive act itself, regardless of the characteristics of any weapon used, might constitute an unlawful assault or at least the R might believe that others, including either legal authorities or the researchers, could regard it that way. Resistance with a gun also involves additional elements of sensitivity. Because guns are legally regulated, a victim's possession of the weapon, either in general or at the time of the DGU, might itself be unlawful, either in fact or in the mind of a crime victim who used one. More likely, lay persons with a limited knowledge of the extremely complicated law of either self-defense or firearms regulation are unlikely to know for sure whether their defensive actions or their gun possession was lawful.

It is not hard for gun-using victims interviewed in the NCVS to withhold information about their use of a gun, especially since they are *never directly asked whether they used a gun for self-protection*. They are asked only general questions about whether they did anything to protect themselves.²⁶ In short, Rs are merely given the opportunity to volunteer the information that they have used a gun defensively. All it takes for an R to conceal a DGU is to simply refrain from mentioning it, i.e., to leave it out of what may be an otherwise accurate and complete account of the crime incident.

Further, Rs in the NCVS are not even asked the general self-protection question unless they already independently indicated that they had been a victim of a crime. This means that any DGUs associated with crimes the Rs did not want to talk about would remain hidden. It has been estimated that the NCVS may catch less than one-twelfth of spousal assaults and one-thirty-third of rapes,²⁷ thereby missing nearly all DGUs associated with such crimes.

In the context of a nonanonymous survey conducted by the fed-

²⁵ U.S. BUREAU OF THE CENSUS, NATIONAL CRIME SURVEY: INTERVIEWER'S MANUAL, NCS-550, PART D - HOW TO ENUMERATE NCS (1986).

²⁶ U.S. BUREAU OF JUSTICE STATISTICS, CRIMINAL VICTIMIZATION IN THE UNITED STATES 1992, at 128 (1994).

²⁷ Colin Loftin & Ellen J. MacKenzie, Building National Estimates of Violent Victimization 21-23 (April 1-4, 1990) (unpublished background paper prepared for the Symposium on the Understanding and Control of Violent Behavior, sponsored by the National Research Council).

eral government, an R who reports a DGU may believe that he is placing himself in serious legal jeopardy. For example, consider the issue of the location of crimes. For all but a handful of gun owners with a permit to carry a weapon in public places (under 4% of the adult population even in states like Florida, where carry permits are relatively easy to get)²⁸, the mere possession of a gun in a place other than their home, place of business, or in some states, their vehicle, is a crime, often a felony. In at least ten states, it is punishable by a punitively mandatory minimum prison sentence.²⁹ Yet, 88% of the violent crimes which Rs reported to NCVS interviewers in 1992 were committed away from the victim's home,³⁰ i.e., in a location where it would ordinarily be a crime for the victim to even possess a gun, never mind use it defensively. Because the question about location is asked before the self-protection questions,³¹ the typical violent crime victim R has already committed himself to having been victimized in a public place before being asked what he or she did for self-protection. In short, Rs usually could not mention their defensive use of a gun without, in effect, confessing to a crime to a federal government employee.

Even for crimes that occurred in the victim's home, such as a burglary, possession of a gun would still often be unlawful or of unknown legal status; because the R had not complied with or could not be sure he had complied with all legal requirements concerning registration of the gun's acquisition or possession, permits for purchase, licensing of home possession, storage requirements, and so on. In light of all these considerations, it may be unrealistic to assume that more than a fraction of Rs who have used a gun defensively would be willing to report it to NCVS interviewers.

The NCVS was not designed to estimate how often people resist crime using a gun. It was designed primarily to estimate national victimization levels; it incidentally happens to include a few self-protection questions which include response categories covering resistance with a gun. Its survey instrument has been carefully refined and evaluated over the years to do as good a job as possible in getting people to report illegal things which *other* people have done *to* them. This is the exact opposite of the task which faces anyone trying to get good DGU estimates—to get people to admit controversial and possibly illegal

²⁸ Patrick Blackman, *Carrying Handguns for Personal Protection* 31 (1985) (unpublished paper presented at the annual meetings of the American Society of Criminology) (Nov. 13-16, 1985); KLECK, *supra* note 18, at 412.

²⁹ Kent M. Ronhovde & Gloria P. Sugars, *Survey of Select State Firearm Control Laws*, in *FEDERAL REGULATION OF FIREARMS* 204-05 (H. Hogan ed., 1982) (report prepared for the U.S. Senate Judiciary Committee by the Congressional Research Service).

³⁰ U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 75.

³¹ *Id.* at 124, 128.

things which the *Rs themselves have done*. Therefore, it is neither surprising, nor a reflection on the survey's designers, to note that the NCVS is singularly ill-suited for estimating the prevalence or incidence of DGU. It is not credible to regard this survey as an acceptable basis for establishing, in even the roughest way, how often Americans use guns for self-protection.

B. THE GUN SURVEYS

At least thirteen previous surveys have given a radically different picture of the frequency of DGUs. The surveys, summarized in Table 1, can be labelled the "gun surveys" because they were all, at least to some extent, concerned with the ownership and use of guns. Some were primarily devoted to this subject, while others were general purpose opinion surveys which happened to include some questions pertaining to guns. They are an extremely heterogeneous collection, some conducted by academic researchers for scholarly purposes, others by commercial polling firms. Moreover, their sponsors differed; some were sponsored by pro-gun control organizations (Cambridge Reports, Hart), others were sponsored by anti-control organizations (DMIA, DMIB), while still others were paid for by news media organizations, governments, or by research grants awarded to independent academics.

None of the surveys were meant as exclusive studies of DGU. Indeed, they each contained only one or two questions on the subject. Consequently, none of them are very thorough or satisfactory for estimating DGU frequency, even though they otherwise seem to have been conducted quite professionally. Some of the surveys were flawed by asking questions that used a lifetime recall period ("Have you ever . . .?"), making it impossible to estimate uses within any specified time span.³² Some surveys limited coverage to registered voters, while others failed to exclude defensive uses against animals, or occupational uses by police officers, military personnel, or private security guards.³³ Some asked the key questions with reference only to the R, while others asked Rs to report on the experiences of all of the members of their households, relying on second-hand reports.³⁴ Methodological research on the NCVS indicates that substantially fewer crime incidents are reported when one household member reports for all household members than when each person is interviewed separately about their own experiences.³⁵ The same should also be true of those

³² See Table 1, row labelled "Time Span of Use."

³³ *Id.* at row labelled "Excluded military, police uses."

³⁴ *Id.* at row labelled "Defensive question refers to."

³⁵ U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 144.

crime incidents that involve victims using guns.

The least useful of the surveys did not even ask the defensive use question of all Rs, instead it asked it only of gun owners, or, even more narrowly, of just handgun owners or just those who owned handguns for protection purposes.³⁶ This procedure was apparently based on the dubious assumption that people who used a gun defensively no longer owned the gun by the time of the survey, or that the gun belonged to someone else, or that the R owned the gun for a reason other than protection or kept it outside the home.

Most importantly, the surveys did not ask enough questions to establish exactly what was done with the guns in reported defensive use incidents. At best, some of the surveys only established whether the gun was fired. The lack of such detail raises the possibility that the guns were not actually “used” in any meaningful way. Instead, Rs might be remembering occasions on which they merely carried a gun for protection “just in case” or investigated a suspicious noise in their backyard, only to find nothing.

Nevertheless, among these imperfect surveys, two were relatively good for present purposes. Both the Hart survey in 1981 and the Mauser survey in 1990 were national surveys which asked carefully worded questions directed at all Rs in their samples. Both surveys excluded uses against animals and occupational uses. The two also nicely complemented each other in that the Hart survey asked only about uses of handguns, while the Mauser survey asked about uses of all gun types. The Hart survey results implied a minimum of about 640,000 annual DGUs involving handguns, while the Mauser results implied about 700,000 involving any type of gun.³⁷ It should be stressed, contrary to the claims of Reiss and Roth,³⁸ that neither of these estimates entailed the use of “dubious adjustment procedures.” The percent of sample households reporting a DGU was simply multiplied by the total number of U.S. households, resulting in an estimate of DGU-involved households. This figure, compiled for a five year period, was then divided by five to yield a per-year figure.

In effect, each of the surveys summarized in Table 1 was measuring something different; simple estimates derived from each of them is not comparable in any straight-forward way. The figures in the bottom row reflect adjustments designed to produce estimates which are

³⁶ CAMBRIDGE REPORTS, INC., AN ANALYSIS OF PUBLIC ATTITUDES TOWARDS HANDGUN CONTROL (1978); THE OHIO STATISTICAL ANALYSIS CENTER, OHIO CITIZEN ATTITUDES CONCERNING CRIME AND CRIMINAL JUSTICE (1982); H. Quinley, Memorandum reporting results from Time/CNN Poll of Gun Owners, dated Feb. 6, 1990 (1990).

³⁷ KLECK, *supra* note 18, at 106-07.

³⁸ UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 15, at 266.

roughly comparable across surveys. The adjustments were based on a single standard, the Mauser survey. That is, all survey results were adjusted to approximate what they would have been had the surveys all been, like the Mauser survey, national surveys of noninstitutionalized U.S. adult residents in 1990, using the same question Mauser used. The question was addressed to all Rs; it concerned the experiences of all household members; it pertained to the use of any type of gun; and it excluded uses against animals. The full set of adjustments is explained in detail elsewhere.³⁹

Eleven of the surveys permitted the computation of a reasonable adjusted estimate of DGU frequency. Two surveys for which estimates could not be produced were the Cambridge Reports and the Time/CNN. Neither asked the DGU question of all Rs; thus, it would be sheer speculation what the responses would have been among those Rs not asked the DGU question. All of the eleven surveys yielded results that implied over 700,000 uses per year. None of the surveys implied estimates even remotely like the 65,000 to 82,000 figures derived from the NCVS. To date, there has been no confirmation of even the most approximate sort of the NCVS estimates. Indeed, no survey has ever yielded an estimate which is of the same magnitude as those derived from the NCVS.

However, even the best of the gun surveys had serious problems. First, none of them established how many times Rs used a gun defensively within the recall period. It was necessary to conservatively assume that each DGU-involved person or household experienced only one DGU in the period, a figure which is likely to be an underestimation. Second, although the Mauser and Hart surveys were the best available surveys in other respects, they asked Rs to report for their entire households, rather than speaking only for themselves. Third, while these two surveys did use a specific recall period, it was five years, which encouraged a greater amount of both memory loss and telescoping. The longer the recall period, the more memory loss predominates over telescoping as a source of response error,⁴⁰ supporting the conclusion that a five year recall period probably produces a net underreporting of DGUs. Fourth, while the surveys all had acceptably large samples by the standards of ordinary national surveys, mostly in the 600 to 1500 range, they were still smaller than one would prefer for estimating a phenomenon which is fairly rare. While on average the sample size has no effect on the point estimate of DGU

³⁹ Gary Kleck, *Guns and Self-Defense* (1994) (unpublished manuscript on file with the School of Criminology and Criminal Justice, Florida State University, Tallahassee, FL).

⁴⁰ Seymour Sudman & Norman M. Bradburn, *Effects of Time and Memory Factors on Response in Surveys*, 68 J. AM. STAT. ASS'N 808 (1973).

frequency, it will affect the amount of sampling error. Finally, none of the surveys established exactly what Rs did with their guns in reported DGUs, making it impossible to be certain that they were actually used in any meaningful way. In sum, while the gun surveys are clearly far superior to the NCVS for estimating DGU frequency, they have significant shortcomings. These are discussed in greater detail elsewhere.⁴¹

It was the goal of the research reported here to remedy those flaws, to develop a credible estimate of DGU frequency, and to learn something about the nature of DGU incidents and the people who defend themselves with guns.

C. THE NATIONAL SELF-DEFENSE SURVEY

1. *Methods*

The present survey is the first survey ever devoted to the subject of armed self-defense. It was carefully designed to correct all of the known correctable or avoidable flaws of previous surveys which critics have identified. We use the most anonymous possible national survey format, the anonymous random digit dialed telephone survey. We did not know the identities of those who were interviewed, and made this fact clear to the Rs. We interviewed a large nationally representative sample covering all adults, age eighteen and over, in the lower forty-eight states and living in households with telephones.⁴² We asked DGU questions of all Rs in our sample, asking them separately about both their own DGU experiences and those of other members of their households. We used both a five year recall period and a one year recall period. We inquired about uses of both handguns and other types of guns, and excluded occupational uses of guns and uses against animals. Finally, we asked a long series of detailed questions designed to establish exactly what Rs did with their guns; for example, if they had confronted other humans, and how had each DGU connected to a specific crime or crimes.

We consulted with North America's most experienced experts on gun-related surveys, David Bordua, James Wright, and Gary Mauser, along with survey expert Seymour Sudman, in order to craft a state-of-the-art survey instrument designed specifically to establish the frequency and nature of DGUs.⁴³ A professional telephone polling firm,

⁴¹ Kleck, *supra* note 39.

⁴² Completed interviews, n=4,977.

⁴³ See, e.g., DAVID J. BORDUA ET AL., ILLINOIS LAW ENFORCEMENT COMMISSION, PATTERNS OF FIREARMS OWNERSHIP, REGULATION AND USE IN ILLINOIS (1979); SEYMOUR SUDMAN & NORMAN BRADBURN, RESPONSE EFFECTS IN SURVEYS (1974); JAMES WRIGHT & PETER ROSSI, ARMED AND CONSIDERED DANGEROUS (1986); Alan J. Lizotte & David J. Bordua, *Firearms Ownership for Sport and Protection*, 46 AM. SOC. REV. 499 (1980); Gary Mauser, *A Comparison of Canadian*

Research Network of Tallahassee, Florida, carried out the sampling and interviewing. Only the firm's most experienced interviewers, who are listed in the acknowledgements, were used on the project. Interviews were monitored at random by survey supervisors. All interviews in which an alleged DGU was reported by the R were validated by supervisors with call-backs, along with a 20% random sample of all other interviews. Of all eligible residential telephone numbers called where a person rather than an answering machine answered, 61% resulted in a completed interview. Interviewing was carried out from February through April of 1993.

The quality of sampling procedures was well above the level common in national surveys. Our sample was not only large and nationally representative, but it was also stratified by state. That is, forty-eight independent samples of residential telephone numbers were drawn, one from each of the lower forty-eight states, providing forty-eight independent, albeit often small, state samples. Given the nature of randomly generated samples of telephone numbers, there was no clustering of cases or multistage sampling as there is in the NCVS;⁴⁴ consequently, there was no inflation of sampling error due to such procedures. To gain a larger raw number of sample DGU cases, we oversampled in the south and west regions, where previous surveys have indicated gun ownership is higher.⁴⁵ We also oversampled within contacted households for males, who are more likely to own guns and to be victims of crimes in which victims might use guns defensively.⁴⁶ Data were later weighted to adjust for oversampling.

Each interview began with a few general "throat-clearing" questions about problems facing the R's community and crime. The interviewers then asked the following question: "Within the past *five years*, have you yourself or another member of your household *used* a gun, even if it was not fired, for self-protection or for the protection of property at home, work, or elsewhere? Please do *not* include military service, police work, or work as a security guard." Rs who answered "yes" were then asked: "Was this to protect against an animal or a person?" Rs who reported a DGU against a person were asked: "How many incidents involving defensive uses of guns against persons happened to members of your household in the past five years?" and "Did this incident [any of these incidents] happen in the *past twelve*

and *American Attitudes Towards Firearms*, 32 CAN. J. CRIMINOLOGY 573 (1990); Gary Mauser, 'Sorry, Wrong Number': Why Media Polls on Gun Control Are Often Unreliable, 9 POL. COMM. 69 (1992); Mauser, *supra* note 16.

⁴⁴ U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 141-42.

⁴⁵ KLECK, *supra* note 18, at 57.

⁴⁶ *Id.* at 56.

months?" At this point, Rs were asked "Was it *you* who used a gun defensively, or did someone else in your household do this?"

All Rs reporting a DGU were asked a long, detailed series of questions establishing exactly what happened in the DGU incident. Rs who reported having experienced more than one DGU in the previous five years were asked about their most recent experience. When the original R was the one who had used a gun defensively, as was usually the case, interviewers obtained his or her firsthand account of the event. When the original R indicated that some other member of the household was the one who had the experience, interviewers made every effort to speak directly to the involved person, either speaking to that person immediately or obtaining times and dates to call back. Up to three call-backs were made to contact the DGU-involved person. We anticipated that it would sometimes prove impossible to make contact with these persons, so interviewers were instructed to always obtain a proxy account of the DGU from the original R, on the assumption that a proxy account would be better than none at all. It was rarely necessary to rely on these proxy accounts—only six sample cases of DGUs were reported through proxies, out of a total of 222 sample cases.

While all Rs reporting a DGU were given the full interview, only a one-third random sample of Rs not reporting a DGU were interviewed. The rest were simply thanked for their help. This procedure helped keep interviewing costs down. In the end, there were 222 completed interviews with Rs reporting DGUs, another 1,610 Rs not reporting a DGU but going through the full interview by answering questions other than those pertaining to details of the DGUs. There were a total of 1,832 cases with the full interview. An additional 3,145 Rs answered only enough questions to establish that no one in their household had experienced a DGU against a human in the previous five years (unweighted totals). These procedures effectively under-sampled for non-DGU Rs or, equivalently, oversampled for DGU-involved Rs. Data were also weighted to account for this oversampling.

Questions about the details of DGU incidents permitted us to establish whether a given DGU met all of the following qualifications for an incident to be treated as a genuine DGU: (1) the incident involved defensive action against a human rather than an animal, but not in connection with police, military, or security guard duties; (2) the incident involved actual contact with a person, rather than merely investigating suspicious circumstances, etc.; (3) the defender could state a specific crime which he thought was being committed at the time of the incident; (4) the gun was actually used in some way—at a minimum it had to be used as part of a threat against a person, either by

verbally referring to the gun (e.g., “get away—I’ve got a gun”) or by pointing it at an adversary. We made no effort to assess either the lawfulness or morality of the Rs’ defensive actions.

An additional step was taken to minimize the possibility of DGU frequency being overstated. The senior author went through interview sheets on every one of the interviews in which a DGU was reported, looking for any indication that the incident might not be genuine. A case would be coded as questionable if even just one of four problems appeared: (1) it was not clear whether the R actually confronted any adversary he saw; (2) the R was a police officer, member of the military or a security guard, and thus might have been reporting, despite instructions, an incident which occurred as part of his occupational duties; (3) the interviewer did not properly record exactly what the R had done with the gun, so it was possible that he had not used it in any meaningful way; or (4) the R did not state or the interviewer did not record a specific crime that the R thought was being committed against him at the time of the incident. There were a total of twenty-six cases where at least one of these problematic indications was present. It should be emphasized that we do not know that these cases were *not* genuine DGUs; we only mean to indicate that we do not have as high a degree of confidence on the matter as with the rest of the cases designated as DGUs. Estimates using all of the DGU cases are labelled herein as “A” estimates, while the more conservative estimates based only on cases devoid of any problematic indications are labelled “B” estimates.

2. Results

Table 2 displays a large number of estimates of how often guns are used defensively. These estimates are not inconsistent with each other; they each measure different things in different ways. Some estimates are based only on incidents which Rs reported as occurring in the twelve months preceding the interview, while others are based on incidents reported for the preceding five years. Both telescoping and recall failure should be lower with a one year recall period, so estimates derived from this period should be superior to those based on the longer recall period. Some estimates are based only on incidents which Rs reported as involving themselves, (person-based estimates), while others were based on all incidents which Rs reported as involving anyone in their household (household-based estimates). The person-based estimates should be better because of its first-hand character. Finally, some of the figures pertain only to DGUs involving use of handguns, while others pertain to DGUs involving any type of gun.

The methods used to compute the Table 2 estimates are very simple and straight-forward. Prevalence (“% Used”) figures were computed by dividing the weighted sample frequencies in the top two rows of numbers by the total weighted sample size of 4,977. The estimated number of persons or households who experienced a DGU, listed in the third and fourth rows, was then computed by multiplying these prevalence figures by the appropriate U.S. population base, age eighteen and over for person-based estimates, and the total number of households for household-based estimates. Finally, the estimated number of defensive uses was computed by multiplying the number of DGU-involved persons or households by the following estimates of the number of all-guns DGU incidents per DGU-involved person or household, using a past-five-years recall period: person-based, A—1.478; person-based, B—1.472; household-based, A—1.531; household-based, B—1.535. We did not establish how many DGUs occurred in the past year, and for past-five-years DGUs, we did not separately establish how many of the DGUs involved handguns and how many involved other types of guns. Therefore, for all past-year estimates, and for past-five-years handgun estimates, it was necessary to conservatively assume that there was only one DGU per DGU-involved person or household.

The most technically sound estimates presented in Table 2 are those based on the shorter one-year recall period that rely on Rs’ first-hand accounts of their own experiences (person-based estimates). These estimates appear in the first two columns. They indicate that each year in the U.S. there are about 2.2 to 2.5 million DGUs of all types by civilians against humans, with about 1.5 to 1.9 million of the incidents involving use of handguns.

These estimates are larger than those derived from the best previous surveys, indicating that technical improvements in the measurement procedures have, contrary to the expectations of Cook,⁴⁷ Reiss and Roth,⁴⁸ and McDowall and Wiersema,⁴⁹ *increased* rather than decreased estimates of the frequency that DGUs occur. Defensive gun use is thus just another specific example of a commonplace pattern in criminological survey work, which includes victimization surveys, self-report surveys of delinquency, surveys of illicit drug use, etc.: the better the measurement procedures, the higher the estimates of controversial behaviors.⁵⁰

The present estimates are higher than earlier ones primarily due

⁴⁷ Cook, *supra* note 4.

⁴⁸ UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 15.

⁴⁹ McDowall & Wiersema, *supra* note 15.

⁵⁰ See, e.g., MICHAEL HINDELANG ET AL., MEASURING DELINQUENCY (1981).

to three significant improvements in the present survey: (1) a shorter recall period; (2) reliance on person-based information rather than just household-based information; and (3) information on how many household DGUs had been experienced in the recall period by those Rs reporting any such experiences. Using a shorter recall period undoubtedly reduced the effects of memory loss by reducing the artificial shrinkage to which earlier estimates were subject. Although telescoping was also undoubtedly reduced, and this would, by itself, tend to reduce estimates, the impact of reducing telescoping was apparently smaller than the impact of reducing case loss due to forgetting. Evidence internal to this survey directly indicates that a one year recall period yields larger estimates than a five year recall period; compare figures in the right half of Table 2 with their counterparts in the left half. This phenomenon, where less behavior is reported for a longer recall period than would be expected based on results obtained when using a shorter period, also has been observed in surveys of self-reported use of illicit drugs.⁵¹

Furthermore, basing estimates on Rs reports about DGUs in which they were personally involved also increases the estimates. One of the surprises of this survey was how few Rs were willing to report a DGU which involved some other member of their household. Eighty-five percent of the reports of DGUs we obtained involved the original R, the person with whom the interviewer first spoke. Given that most households contain more than one adult eligible to be interviewed, it was surprising that in a DGU-involved household the person who answered the phone would consistently turn out to be the individual who had been involved in the DGU. Our strong suspicion is that many Rs feel that it is not their place to tell total strangers that some other member of their household has used a gun for self-protection. Some of them are willing to tell strangers about an incident in which they were themselves involved, but apparently few are willing to "inform" on others in their household. Still others may not have been aware of DGUs involving other household members. Evidence internal to the present survey supports this speculation, since person-based estimates are 66 to 77% higher than household-based estimates; a figure that suggests that there was more complete reporting of DGUs involving the original respondent than those involving other household members.⁵² For this reason, previous surveys including those which yielded only household-based estimates, four of the six gun surveys which yielded usable annual estimates, and all of those which

⁵¹ See Jerald Bachman & Patrick O'Malley, *When Four Months Equal a Year: Inconsistencies in Student Reports of Drug Use*, 45 PUB. OPINION Q. 536, 539, 543 (1981).

⁵² See Table 2.

were national in scope, probably substantially underestimated DGUs.

We also had information on the number of times that DGU-involved households had experienced DGUs during the five year recall period. While it was necessary in computing previous estimates to conservatively assume that each DGU-involved person or household had experienced only one DGU, our evidence indicates that repeat experiences were not uncommon, with 29.5% of DGU-involved households reporting more than one DGU within the previous five years. The average number of DGUs in this time span was 1.5 per DGU-involved household. This information alone could account for a roughly 50% increase in DGU incidence estimates based on the five year recall period.

Finally, our survey was superior to the NCVS in two additional ways: it was free of the taint of being conducted by, and on behalf of, employees of the federal government, and it was completely anonymous.

It would be incorrect to say that the present estimates are inconsistent with those derived from the earlier gun surveys. Avoiding apples-and-oranges comparisons, compare figures from Table 2 with earlier results summarized in Table 1. The household prevalence figures from the national Hart and Mauser surveys, which used a DGU question most similar to the one used in the present survey, indicate that in 1990, 3.8% of households reported a DGU involving a gun of any kind in the previous five years⁵³ and in 1981, 4% reported a DGU involving a handgun in the previous five years.⁵⁴ The past-five-years, household-based “% Used” figures in Table 2 indicate 3.9% for all guns, and 3.0% for handguns. Where directly comparable, the present results are within sampling error of the results of the best two previous surveys. Indeed, the consistency is remarkable given the substantial differences among the surveys and the twelve year difference between the Hart survey and the current one. Further, the only prior survey with person-based estimates and a *one* year recall period, the 1976 Field poll in California, yielded a 1.4% prevalence figure for handguns,⁵⁵ compared to 1.0% in the present survey.⁵⁶

With a sample size of 4,977, random sampling error of the estimates is small. For example, the all-guns prevalence percent used *A* estimates, with a 95% confidence interval, are plus or minus 0.32% for past year, person; 0.35% for past year, household; 0.50% for past five

⁵³ Mauser, *supra* note 19.

⁵⁴ Peter D. Hart Research Associates, Inc., Questionnaire used in October 1981 Violence in America Survey, with marginal frequencies (1981).

⁵⁵ See Table 1, note A.

⁵⁶ See Table 2, second column.

years, person; and 0.54% for past five years, household. Given how small these are already, even increasing samples to the size of the enormous ones in the NCVS could produce only slight reductions in sampling error.

Are these estimates plausible? Could it really be true that Americans use guns for self-protection as often as 2.1 to 2.5 million times a year? The estimate may seem remarkable in comparison to expectations based on conventional wisdom, but it is not implausibly large in comparison to various gun-related phenomena. There are probably over 220 million guns in private hands in the U.S.,⁵⁷ implying that only about 1% of them are used for defensive purposes in any one year—not an impossibly high fraction. In a December 1993 Gallup survey, 49% of U.S. households reported owning a gun, and 31% of adults reported personally owning one.⁵⁸ These figures indicate that there are about 47.6 million households with a gun, with perhaps 93 million, or 49% of the adult U.S. population living in households with guns, and about 59.1 million adults personally owning a gun. Again, it hardly seems implausible that 3% (2.5 million/93 million) of the people with immediate access to a gun could have used one defensively in a given year.

Huge numbers of Americans not only have access to guns, but the overwhelming majority of gun owners, if one can believe their statements, are willing to use a gun defensively. In a December 1989 national survey, 78% of American gun owners stated that they would not only be willing to use a gun defensively in some way, but would be willing to *shoot* a burglar.⁵⁹ The percentage willing to use a gun defensively in *some* way, though not necessarily by shooting someone, would presumably be even higher than this.

Nevertheless, having access to a gun and being willing to use it against criminals is not the same as actually doing so. The latter requires experiencing a crime under circumstances in which the victim can get to, or already possesses, a gun. We do not know how many such opportunities for crime victims to use guns defensively occur each year. It would be useful to know how large a fraction of crimes with direct offender-victim contact result in a DGU. Unfortunately, a large share of the incidents covered by our survey are probably outside the scope of incidents that realistically are likely to be reported to either the NCVS or police. If the DGU incidents reported in the present survey are not entirely a subset within the pool of cases

⁵⁷ KLECK, *supra* note 18, at 50 (extrapolating up to 1994, from 1987 data).

⁵⁸ David W. Moore & Frank Newport, *Public Strongly Favors Stricter Gun Control Laws*, 340 THE GALLUP POLL MONTHLY 18 (1994).

⁵⁹ Quinley, *supra* note 36.

covered by the NCVS, one cannot meaningfully use NCVS data to estimate the share of crime incidents which result in a DGU. Nevertheless, in a ten state sample of incarcerated felons interviewed in 1982, 34% reported having been “scared off, shot at, wounded or captured by an armed victim.”⁶⁰ From the criminals’ standpoint, this experience was not rare.

How could such a serious thing happen so often without becoming common knowledge? This phenomenon, regardless of how widespread it really is, is largely an invisible one as far as governmental statistics are concerned. Neither the defender/victim nor the criminal ordinarily has much incentive to report this sort of event to the police, and either or both often have strong reasons *not* to do so. Consequently, many of these incidents never come to the attention of the police, while others may be reported but without victims mentioning their use of a gun. And even when a DGU is reported, it will not necessarily be recorded by the police, who ordinarily do not keep statistics on matters other than DGUs resulting in a death, since police record-keeping is largely confined to information helpful in apprehending perpetrators and making a legal case for convicting them. Because such statistics are not kept, we cannot even be certain that a large number of DGUs are *not* reported to the police.

The health system cannot shed much light on this phenomenon either, since very few of these incidents involve injuries.⁶¹ In the rare case where someone is hurt, it is usually the criminal, who is unlikely to seek medical attention for any but the most life-threatening gunshot wounds, as this would ordinarily result in a police interrogation. Physicians in many states are required by law to report treatment of gunshot wounds to the police, making it necessary for medically treated criminals to explain to police how they received their wounds.

Finally, it is now clear that virtually none of the victims who use guns defensively tell interviewers about it in the NCVS. Our estimates imply that only about 3% of DGUs among NCVS Rs are reported to interviewers.⁶² Based on other comparisons of alternative survey estimates of violent events with NCVS estimates, this high level of under-reporting is eminently plausible. Loftin and Mackenzie reported that rapes might be thirty-three times as frequent as NCVS estimates indicate, while spousal violence could easily be twelve times as high.⁶³

There is no inherent value to knowing the exact number of

⁶⁰ WRIGHT & ROSSI, *supra* note 43, at 155.

⁶¹ See Table 3, Panels A, E.

⁶² The 85,000 DGUs estimated from the NCVS, divided by the 2.5 million estimate derived from the presented survey equals .03.

⁶³ Loftin & MacKenzie, *supra* note 27, at 22-23.

DGUs any more than there is any value to knowing the exact number of crimes which are committed each year. The estimates in Table 2 are at best only rough approximations, which are probably too low. It is sufficient to conclude from these numbers that DGU is very common, far more common than has been recognized to date by criminologists or policy makers, and certainly far more common than one would think based on any official sources of information.

What does “very common” mean? One natural standard of comparison by which the magnitude of these numbers could be judged is the frequency with which guns are used for criminal purposes. The highest annual estimate of criminal gun use for the peak year of gun crime is the NCVS estimate for 1992, when there were an estimated 847,652 violent crime incidents in which, according to the victim, at least one offender possessed a gun.⁶⁴ This NCVS figure is not directly comparable with our DGU estimates because our DGU estimates are restricted only to incidents in which the gun was actually used by the defender, as opposed to incidents in which a victim merely possessed a gun. Many of the “gun crimes” in the NCVS, on the other hand, do not involve the gun actually being used by the criminal. Thus, the NCVS estimate of “gun crimes” overstates the number of crimes in which the offender actually used the gun. The only “gun crimes” reported in NCVS interviews that one can be confident involved offenders actually using guns are those in which they shot at a victim; but these were only 16.6% of “handgun crimes” reported in the NCVS from 1987 to 1992.⁶⁵

Another 46.8% of the “handgun crimes” are labelled “weapon present” cases by the Bureau of Justice (BJS)⁶⁶ and an unknown fraction of these *could* involve actual use of a gun in a threat; but NCVS data do not permit us to know just how large a fraction. For these cases, the relevant NCVS interview items are ambiguous as to whether the gun was used to threaten a victim. Response category four of question fourteen (“How were you threatened?”) of the NCVS Crime Incident Report reads: “Weapon present or threatened with weapon”⁶⁷ When this category is recorded by the interviewer, it is impossible to determine whether the victim was actually threatened with a gun or merely reported that the offender possessed a gun. In the remaining 36.6% of the “handgun crimes,”⁶⁸ there is no indica-

⁶⁴ Computed from U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 82-83.

⁶⁵ RAND, *supra* note 17, at 2.

⁶⁶ *Id.*

⁶⁷ U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 126.

⁶⁸ 100%, minus the 16.6% where the victim was shot at, minus the 46.8% where the victim reported a “weapon present or threatened with a weapon” = 36.6%.

tion at all that the gun allegedly possessed by the offender was actually used.

Even the presence of a weapon is debatable, since victims are not asked why they thought the offender possessed a gun or if they saw a gun. This raises the possibility that some victims assumed that the offender had a gun, or inferred it from a bulge in the offender's clothing, or accepted the word of an offender who was bluffing about having a gun.

Thus, somewhere between 16.6% and 63.4%⁶⁹ of NCVS-defined "handgun crime" victimizations involve the gun actually being used in an attack or threat. Applying these figures to the estimates of 847,652 gun crime incidents and 689,652 handgun crime incidents, we can be confident that in 1992 there were at least 140,710 nonfatal crime incidents in which offenders used guns, 114,482 with handguns or about 157,000 total gun crime incidents, and 129,000 with handguns, when one includes gun homicides.⁷⁰ Or, generously assuming that all of the ambiguous "weapon present" cases involved guns being used to threaten the victim, estimates of 554,000 total, fatal and nonfatal, gun crime incidents and 451,000 handgun crime incidents are obtained.

All of these estimates are well short of even the most conservative estimates of DGUs in Table 2. The best estimates of DGUs (first two columns), even if compared to the more generous estimates of gun crimes, are 4.6 times higher than the crime counts for all guns, and 4.2 times higher for handguns, or 3.9 and 3.4, respectively, if the more conservative *B* estimates of DGU are used. In sum, DGUs are about three to five times as common as criminal uses, even using generous estimates of gun crimes.

There is good reason to believe that survey estimates of both criminal and defensive gun uses, including the DGU estimates presented here, are too low. Cook has shown that NCVS estimates of gunshot wounds are far too low.⁷¹ Our estimates of DGUs are probably also too low, partly because, unlike the NCVS, our survey did not cover adolescents, the age group most frequently victimized in violence. Furthermore, our use of telephone surveying excludes the 5% of the nation's households without telephones, households which are disproportionately poor and/or rural. Low income persons are more likely to be crime victims,⁷² while rural persons are more likely to own

⁶⁹ 16.6% plus the 46.8% in the ambiguous "weapon present" category.

⁷⁰ FEDERAL BUREAU OF INVESTIGATION, U.S. DEPARTMENT OF JUSTICE, CRIME IN THE UNITED STATES 1992—UNIFORM CRIME REPORTS 18, 58 (1993).

⁷¹ Philip J. Cook, *The Case of the Missing Victims: Gunshot Woundings in the National Crime Survey*, 1 J. QUANTITATIVE CRIMINOLOGY 91 (1985).

⁷² U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 33.

guns and to be geographically distant from the nearest police officer.⁷³ Both groups therefore may have more opportunities to use guns for self-protection and excluding them from the sample could contribute to an underestimation of DGU.

Both parameters also are subject to underestimation due to intentional respondent underreporting. It is also probable that typical survey Rs are more reluctant to tell interviewers about questionable acts that they themselves have committed, such as threatening another person with a gun for purportedly defensive reasons, than they are to report criminal acts that other people have committed *against* them. Assuming this is correct, it would imply that DGUs, even in the best surveys, are underreported more than gun crime victimizations, and that correcting for underreporting would only increase the degree to which DGUs outnumber gun crimes.

The only known significant source of overestimation of DGUs in this survey is "telescoping," the tendency of Rs to report incidents which actually happened earlier than the recall period, such as reporting a six year old incident as having happened in the past five years. It is likely that telescoping effects are more than counterbalanced by Rs who actually experienced DGUs failing to report them. Nevertheless, it is worth discussing how much effect telescoping could have on these estimates. In evaluating the ability of crime victims to recall crime events in victim surveys, the U.S. Census Bureau selected a sample of crimes that were reported to the police, and then interviewed the victims of these known crime events. Using a twelve month recall period (the same as we used in the present survey), they surveyed victims who had been involved in crimes which had actually occurred *thirteen to fourteen* months before the interview, i.e., one or two months before the recall period. Of these ineligible crimes, 21% were telescoped forward—wrongly reported as having occurred in the twelve month recall period.⁷⁴

Since the months just before the start of the recall period will show the highest rates of telescoping, the rate should be even smaller for crimes which occurred earlier. Nevertheless, even if it is assumed that the 21% rate applied to events that occurred as much as one year earlier, thirteen to twenty-four months before the interview, telescoping could inflate the DGU estimates for a one year recall period by only 21%. Adjusting the 2.5 million DGU estimate downward for telescoping effects of this magnitude would reduce it to about 2.1 mil-

⁷³ KLECK, *supra* note 18, at 57.

⁷⁴ Richard W. Dodge, *The Washington, D.C. Recall Study*, in 1 THE NATIONAL CRIME SURVEY: WORKING PAPERS: CURRENT AND HISTORICAL PERSPECTIVES 14 (Robert G. Lehnen & Wesley G. Skogan eds., 1981).

lion (2.5 million/1.21=2.1 million), an adjustment which would have no effect on any of our conclusions. Telescoping would inflate estimates based on the five year recall period even less, since the ratio of memory loss errors over telescoping errors increases as the recall period lengthens.⁷⁵ Nevertheless, it should be stressed that this is just a numerical demonstration. There is no reason to believe that these modest telescoping effects outweigh the effects of Rs failing to report DGUs, and therefore, no reason to believe that these estimates are even slightly too high.

III. THE NATURE OF DEFENSIVE GUN USE

A total of 222 sample cases of DGUs against humans were obtained. For nine of these, the R broke off discussion of the incident before any significant amount of detail could be obtained, other than that the use was against a human. This left 213 cases with fairly complete information. Although this dataset constitutes the most detailed body of information available on DGU, the sample size is nevertheless fairly modest. While estimates of DGU frequency are reliable because they are based on a very large sample of 4,977 cases, results pertaining to the details of DGU incidents are based on 213 or fewer sample cases, and readers should treat these results with appropriate caution.

Apart from the sample size, the results of this survey also are affected by sample censoring. Beyond the incidents our interviewers were told about, there were almost certainly other DGUs which occurred within the recall period but which Rs did not mention to interviewers. In debriefings by the authors, almost all of our interviewers reported that they had experienced something like the following: they asked the key DGU question, which was followed by a long silence on the other end of the line, and/or the R asking something like "Who wants to know?" or "Why do you want to know?" or some similarly suspicious remark, followed by a "no" answer. In contrast, only one interviewer spoke with a person he thought was inventing a nonexistent incident. One obvious implication is that the true frequency of DGU is probably even higher than our estimates indicate. Another is that the incidents which were reported might differ from those that were not.

We believe that there are two rather different kinds of incidents that are especially likely to go unreported: (1) cases that Rs do not want to tell strangers on the phone, because the Rs deem them legally

⁷⁵ Henry S. Woltman et al., *Recall Bias and Telescoping in the National Crime Survey*, in *THE NATIONAL CRIME SURVEY: WORKING PAPERS: METHODOLOGICAL STUDIES* 810 (Robert G. Lehnen & Wesley G. Skogan eds., 1984); Sudman & Bradburn, *supra* note 40.

or morally dubious or they think the interviewer would regard them that way; and (2) relatively minor cases that Rs honestly forget about or did not think were serious enough to qualify as relevant to our inquiries. Thus, in addition to the mostly legitimate and serious cases covered in our sample, there are still other, less legitimate or serious DGU incidents that this or any other survey are likely to miss. This supposition would imply two kinds of bias in our descriptive results: (1) our DGUs would look more consistently “legitimate” than the entire set of all DGUs actually are; and (2) our DGUs would look more serious, on average, than the entire set of DGUs really are. These possibilities should be kept in mind when considering the following descriptive information.

Table 3 summarizes what our sample DGU incidents were like. The data support a number of broad generalizations. First, much like the typical gun crime, many of these cases were relatively undramatic and minor compared to fictional portrayals of gun use. Only 24% of the gun defenders in the present study reported firing the gun, and only 8% report wounding an adversary.⁷⁶ This parallels the fact that only 17% of the gun crimes reported in the NCVS involve the offender shooting at the victim, and only 3% involve the victim suffering a gunshot wound.⁷⁷

Low as it is, even an 8% wounding rate is probably too high, both because of the censoring of less serious cases, which in this context would be cases without a wounding, and because the survey did not establish how Rs knew they had wounded someone. We suspect that in incidents where the offender left without being captured, some Rs “remembered with favor” their marksmanship and assumed they had hit their adversaries. If 8.3% really hit their adversaries, and a total of 15.6% fired at their adversaries, this would imply a 53% (8.3/15.6) “incident hit rate,” a level of combat marksmanship far exceeding that typically observed even among police officers. In a review of fifteen reports, police officers inflicted at least one gunshot wound on at least one adversary in 37% of the incidents in which they intentionally fired at someone.⁷⁸ A 53% hit rate would also be triple the 18% hit rate of criminals shooting at crime victims.⁷⁹ Therefore, we believe that even the rather modest 8.3% wounding rate we found is probably too high, and that typical DGUs are less serious or dramatic in their consequences than our data suggest. In any case, the 8.3% figure was pro-

⁷⁶ See Table 3, panel A.

⁷⁷ RAND, *supra* note 17.

⁷⁸ WILLIAM A. GELLER & MICHAEL S. SCOTT, POLICE EXECUTIVE RESEARCH FORUM, DEADLY FORCE: WHAT WE KNOW 100-106 (1993).

⁷⁹ RAND, *supra* note 17.

duced by just seventeen sample cases in which Rs reported that they wounded an offender.

About 37% of these incidents occurred in the defender's home, with another 36% near the defender's home.⁸⁰ This implies that the remaining 27% occurred in locations where the defender must have carried a gun through public spaces. Adding in the 36% which occurred *near* the defender's home and which may or may not have entailed public carrying, 36 to 63% of the DGUs entailed gun carrying.

Guns were most commonly used for defense against burglary, assault, and robbery.⁸¹ Cases of "mutual combat," where it would be hard to tell who is the aggressor or where both parties are aggressors, would be a subset of the 30% of cases where assault was the crime involved. However, only 19% of all DGU cases involved *only* assault and no other crime where victim and offender could be more easily distinguished. Further, only 11% of all DGU cases involved only assault and a male defender—we had no information on gender of offenders—some subset of these could have been male-on-male fights. Thus, very few of these cases fit the classic mutual combat model of a fight between two males. This is not to say that such crimes where a gun-using combatant might claim that his use was defensive are rare, but rather that few of them are in this sample. Instead, cases where it is hard to say who is victim and who is aggressor apparently constitute an additional set of questionable DGUs lying largely outside of the universe of more one-sided events that our survey methods could effectively reach.

This survey did not attempt to compare the effectiveness of armed resistance with other forms of victim self-protection, since this sort of work has already been done and reviewed earlier in this paper. Panels D and E nevertheless confirm previous research on the effectiveness of self-defense with a gun—crime victims who use this form of self-protection rarely lose property and rarely provoke the offender into hurting them. In property crime incidents where burglary, robbery, or other thefts were attempted, victims lost property in just 11% of the cases. Gun defenders were injured in just 5.5% of all DGU incidents. Further, in 84% of the incidents where the defender was threatened or attacked, it was the offender who first threatened or used force. In *none* of the eleven sample cases where gun defenders were injured was the defender the first to use or to threaten force. The victim used a gun to threaten or attack the offender only *after* the offender had already attacked or threatened them and usually after

⁸⁰ See Table 3, Panel B.

⁸¹ *Id.* at Panel C.

the offender had inflicted the injury. There is no support in this sample for the hypothesis that armed resistance provokes criminals into attacking victims; this confirms the findings of prior research.⁸²

While only 14% of *all* violent crime victims face offenders armed with guns,⁸³ 18% of the gun-using victims in our sample faced adversaries with guns.⁸⁴ Although the gun defenders usually faced unarmed offenders or offenders with lesser weapons, they were more likely than other victims to face gun-armed criminals. This is consistent with the perception that more desperate circumstances call forth more desperate defensive measures. The findings undercut the view that victims are prone to use guns in “easy” circumstances which are likely to produce favorable outcomes for the victim regardless of their gun use.⁸⁵ Instead, gun defenders appear to face more difficult circumstances than other crime victims, not easier ones.

Nevertheless, one reason crime victims are willing to take the risks of forcefully resisting the offender is that most offenders faced by victims choosing such an action are unarmed, or armed only with less lethal weapons. Relatively few victims try to use a gun against adversaries who are themselves armed with guns. According to this survey, offenders were armed with some kind of weapon in 48% of DGU incidents but had guns in only 18% of them.⁸⁶

The distribution of guns by type in DGUs is similar to that of guns used by criminals. NCVS and police-based data indicate that about 80% of guns used in crime are handguns,⁸⁷ and the present study indicates that 80% of the guns used by victims are handguns.⁸⁸

Incidents where victims use a gun defensively are almost never gunfights where both parties shoot at one another. Only 24% of the incidents involved the defender firing their gun, and only 16% involved the defender shooting *at* their adversary.⁸⁹ In only 4.5% of the cases did the offender shoot at the defender.⁹⁰ Consequently, it is not surprising that only 3% of all the incidents involved both parties shooting at each other.

Among our sample cases, the offenders were strangers to the de-

⁸² Kleck, *supra* note 3, at 7-9; Kleck & DeLone, *supra* note 3, at 75-77.

⁸³ U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 83.

⁸⁴ See Table 3, Panel F.

⁸⁵ For a related speculation, see UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 15, at 266.

⁸⁶ *Id.*

⁸⁷ U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 83; U.S. FEDERAL BUREAU OF INVESTIGATION, *supra* note 70, at 18.

⁸⁸ See Table 3, Panel H.

⁸⁹ *Id.* at Panel A.

⁹⁰ *Id.* at Panel G.

fender in nearly three quarters of the incidents.⁹¹ We suspect that this again reflects the effects of sample censoring. Just as the NCVS appears to detect less than a tenth of domestic violence incidents,⁹² our survey is probably missing many cases of DGU against family members and other intimates.

While victims face multiple offenders in only about 24% of *all* violent crimes,⁹³ the victims in our sample who used guns faced multiple offenders in 53% of the incidents.⁹⁴ This mirrors the observation that criminals who use guns are also more likely than unarmed criminals to face multiple victims.⁹⁵ A gun allows either criminals or victims to handle a larger number of adversaries. Many victims facing multiple offenders probably would not resist at all if they were without a gun or some other weapon. Another possible interpretation is that some victims will resort to a defensive measure as serious as wielding a gun only if they face the most desperate circumstances. Again, this finding contradicts a view that gun defenders face easier circumstances than other crime victims.

Another way of assessing how serious these incidents appeared to the victims is to ask them how potentially fatal the encounter was. We asked Rs: “If you had *not* used a gun for protection in this incident, how likely do you think it is that you or someone else would have been *killed*? Would you say almost certainly *not*, probably not, might have, probably would have, or almost certainly would have been killed?” Panel K indicates that 15.7% of the Rs stated that they or someone else “almost certainly would have” been killed, with another 14.2% responding “probably would have” and 16.2% responding “might have.”⁹⁶ Thus, nearly half claimed that they perceived some significant chance of someone being killed in the incident if they had not used a gun defensively.

It should be emphasized that these are just stated perceptions of participants, not objective assessments of actual probabilities. Some defenders might have been bolstering the justification for their actions by exaggerating the seriousness of the threat they faced. Our cautions about sample censoring should also be kept in mind—minor, less life-threatening events are likely to have been left out of this sample, either because Rs forgot them or because they did not think them important enough to qualify as relevant to our inquiries.

⁹¹ *Id.* at Panel I.

⁹² Loftin & MacKenzie, *supra* note 27, at 22-23.

⁹³ U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 82.

⁹⁴ See Table 3, Panel J.

⁹⁵ Cook, *supra* note 4.

⁹⁶ See Table 3, Panel K.

If we consider only the 15.7% who believed someone almost certainly would have been killed had they not used a gun, and apply this figure to estimates in the first two columns of Table 2, it yields national annual estimates of 340,000 to 400,000 DGUs of any kind, and 240,000 to 300,000 uses of handguns, where defenders stated, if asked, that they believed they almost certainly had saved a life by using the gun. Just how many of these were truly life-saving gun uses is impossible to know. As a point of comparison, the largest number of deaths involving guns, including homicides, suicides, and accidental deaths in any one year in U.S. history was 38,323 in 1991.⁹⁷

Finally, we asked if Rs had reported these incidents to the police, or if the police otherwise found out about them; 64% of the gun-using victims claimed that the incidents had become known to the police. This figure should be interpreted with caution, since victims presumably want to present their use of guns as legitimate and a willingness to report the incident to the police would help support an impression of legitimacy. Rs who had in fact not reported the incident to the police might have wondered whether a “no” reply might not lead to discomfiting follow-up questions like “why not?” (as indeed it does in the NCVS). Further, it is likely that some Rs reported these incidents but did not mention their use of a gun.

IV. WHO IS INVOLVED IN DEFENSIVE GUN USE?

Finally, this Article will consider what sorts of people use guns defensively, and how they might differ from other people. Table 4 presents comparisons of five groups: (1) “defenders,” i.e., people who reported using a gun for defense; (2) people who personally own guns but did not report a DGU; (3) people who do not personally own a gun; (4) people who did not report a DGU, regardless of whether they own guns; and (5) all people who completed the full interview.

Some of the earlier gun surveys asked the DGU question only of Rs who reported owning a gun. The cost of this limitation is evident from the first two rows of Table 4. Nearly 40% of the people reporting a DGU did not report personally owning a gun at the time of the interview. They either used someone else’s gun, got rid of the gun since the DGU incident, or inaccurately denied personally owning a gun. About a quarter of the defenders reported that they did not even have a gun in their household at the time of the interview. Another possibility is that many gun owners were falsely denying their ownership of the “incriminating evidence” of their DGU.

⁹⁷ NATIONAL SAFETY COUNCIL, ACCIDENT FACTS 11 (1994). This assumes that 95% of “legal intervention” deaths involved guns.

Many of the findings in Table 4 are unsurprising. Gun defenders are more likely to carry a gun for self-protection, consistent with the large share of DGUs which occurred away from the defender's home. Obviously, they were more likely to have been a victim of a burglary or robbery in the past year, a finding which is a tautology for those Rs whose DGU was in connection with a robbery or burglary committed against them in the preceding year. They were also more likely to have been a victim of an assault since becoming an adult.

Defenders are more likely to believe that a person must be prepared to defend their homes against crime and violence rather than letting the police take care of it compared to either gun owners without a DGU and nonowners. Whether this is cause or consequence of defenders' defensive actions is impossible to say with these data.

Some might suspect that DGUs were actually the aggressive acts of vengeful vigilantes intent on punishing criminals. If this were true of gun defenders as a group, one might expect them to be more supportive of punitive measures like the death penalty. In fact, those who reported a DGU were no more likely to support the death penalty than those without such an experience, and were somewhat *less* likely to do so compared with gun owners as a group. Similarly, gun defenders were no more likely than other people to endorse the view that the courts do not deal harshly enough with criminals.

Perhaps the most surprising finding of the survey was the large share of reported DGUs that involved women. Because of their lower victimization rates and lower gun ownership rates, one would expect women to account for far less than half of DGUs. Nevertheless, 46% of our sample DGUs involved women. This finding could be due to males reporting a lower fraction of actual DGUs than women. If a larger share of men's allegedly DGUs were partly aggressive actions, a larger share would be at the "illegitimate" end of the scale and thus less likely to be reported to interviewers. Further, women may be more likely than men to report their DGUs because they are less afraid of prosecution. Consequently, although there is no reason to doubt that women use guns defensively as often as this survey indicates, it is probable that males account for a larger number and share of DGUs than these data indicate.

A disproportionate share of defenders are African-American or Hispanic compared to the general population and especially compared to gun owners. Additionally, defenders are disproportionately likely to reside in big cities compared to other people, and particularly when compared to gun owners, who reside disproportionately in rural areas and small towns. Finally, defenders are disproportionately likely to be single. These patterns are all presumably due to the higher rates

of crime victimization among minorities, big city dwellers, and single persons.⁹⁸ On the other hand, defenders are not likely to be poor. The effect of higher victimization among poor people may be cancelled out by the lower gun ownership levels among the poor.⁹⁹

One might suspect that, despite instructions not to report such events, some of the Rs reporting a DGU might have been describing an event which occurred as part of their occupational activities as a police officer, a member of the military, or a security guard. This could not have been true for more than a handful of our DGU cases, since only 2.4% (five sample cases) involved a person who had this type of occupation. Even these few cases may have occurred off-duty and thus would not necessarily be occupational DGUs. Gun defenders were in fact somewhat *less* likely to have a gun-related occupation than other gun owners.

V. CONCLUSION

If one were committed to rejecting the seemingly overwhelming survey evidence on the frequency of DGU, one could speculate, albeit without any empirical foundation whatsoever, that nearly all of the people reporting such experiences are simply making them up. We feel this is implausible. An R who had actually experienced a DGU would have no difficulty responding with a “no” answer to our DGU question because a “no” response was not followed up by further questioning. On the other hand, lying with a false “yes” answer required a good deal more imagination and energy. Since we asked as many as nineteen questions on the topic, this would entail spontaneously inventing as many as nineteen plausible and internally consistent bits of false information and doing so in a way that gave no hint to experienced interviewers that they were being deceived.

Suppose someone persisted in believing in the anomalous NCVS estimates of DGU frequency and wanted to use a “dishonest respondent” hypothesis to account for estimates from the present survey that are as much as thirty times higher. In order to do this, one would have to suppose that twenty-nine out of every thirty people reporting a DGU in the present survey were lying. There is no precedent in criminological survey research for such an enormous level of intentional and sustained falsification.

The banal and undramatic nature of the reported incidents also undercuts the dishonest respondent speculation. While all the incidents involved a crime, and usually a fairly serious one, only 8% of the

⁹⁸ U.S. BUREAU OF JUSTICE STATISTICS, *supra* note 26, at 25-26, 31, 38-39.

⁹⁹ KLECK, *supra* note 18, at 56.

alleged gun defenders claimed to have shot their adversaries, and only 24% claim to have fired their gun. If large numbers of Rs were inventing their accounts, one would think they would have created more exciting scenarios.

By this time there seems little legitimate scholarly reason to doubt that defensive gun use is very common in the U.S., and that it probably is substantially more common than criminal gun use. This should not come as a surprise, given that there are far more gun-owning crime victims than there are gun-owning criminals and that victimization is spread out over many different victims, while offending is more concentrated among a relatively small number of offenders.

There is little legitimate reason to continue accepting the NCVS estimates of DGU frequency as even approximately valid. The gross inconsistencies between the NCVS and all other sources of information make it reasonable to suppose that all but a handful of NCVS victims who had used a gun for protection in the reported incidents refrained from mentioning this gun use. In light of evidence on the injury-preventing effectiveness of victim gun use, in some cases where the absence of victim injury is credited to either nonresistance or some unarmed form of resistance, the absence of injury may have actually been due to resistance with a gun, which the victim failed to mention to the interviewer.

The policy implications of these results are straightforward. These findings do *not* imply anything about whether moderate regulatory measures such as background checks or purchase permits would be desirable. Regulatory measures which do not disarm large shares of the general population would not significantly reduce beneficial defensive uses of firearms by noncriminals. On the other hand, prohibitionist measures, whether aimed at all guns or just at handguns, are aimed at disarming criminals and noncriminals alike. They would therefore discourage and presumably decrease the frequency of DGU among noncriminal crime victims because even minimally effective gun bans would disarm at least some noncriminals. The same would be true of laws which ban gun carrying. In sum, measures that effectively reduce gun availability among the noncriminal majority also would reduce DGUs that otherwise would have saved lives, prevented injuries, thwarted rape attempts, driven off burglars, and helped victims retain their property.

Since as many as 400,000 people a year use guns in situations where the defenders claim that they “almost certainly” saved a life by doing so, this result cannot be dismissed as trivial. If even one-tenth of these people are accurate in their stated perceptions, the number of lives saved by victim use of guns would still exceed the total number

of lives taken with guns. It is not possible to know how many lives are actually saved this way, for the simple reason that no one can be certain how crime incidents would have turned out had the participants acted differently than they actually did. But surely this is too serious a matter to simply assume that practically everyone who says he believes he saved a life by using a gun was wrong.

This is also too serious a matter to base conclusions on silly statistics comparing the number of lives taken with guns with the number of criminals *killed* by victims.¹⁰⁰ Killing a criminal is not a benefit to the victim, but rather a nightmare to be suffered for years afterward. *Saving* a life through DGU would be a benefit, but this almost never involves killing the criminal; probably fewer than 3,000 criminals are lawfully killed by gun-wielding victims each year,¹⁰¹ representing only about 1/1000 of the number of DGUs, and less than 1% of the number of purportedly life-saving DGUs. Therefore, the number of justifiable homicides cannot serve as even a rough index of life-saving gun uses. Since this comparison does not involve any measured benefit, it can shed no light on the benefits and costs of keeping guns in the home for protection.¹⁰²

¹⁰⁰ Arthur L. Kellermann & Donald T. Reay, *Protection or Peril?*, 314 *NEW ENG. J. MED.* 1557 (1986).

¹⁰¹ KLECK, *supra* note 18, at 111-117.

¹⁰² See *id.* at 127-129 for a more detailed critique of these "junk science" statistics. See UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 15, at 267 for an example of a prestigious source taking such numbers seriously.

Table 1
FREQUENCY OF DEFENSIVE GUN USE IN PREVIOUS SURVEYS⁸⁰

| Survey: | Field | Bordua | Cambridge Reports | DM1a | DM1b | Hart | Ohio |
|--|------------------------|-----------------|------------------------|-------------------|-------------------|-------------------|-----------------------|
| Area: | California | Illinois | U.S. | U.S. | U.S. | U.S. | Ohio |
| Year of Interviews: | 1976 | 1977 | 1978 | 1978 | 1978 | 1981 | 1982 |
| Population covered: | Noninst. adults | Noninst. adults | Noninst. adults | Registered voters | Registered voters | Registered voters | "Residents" |
| Gun Type Covered: | Handguns | All guns | Handguns | All guns | All guns | Handguns | Handguns |
| Recall Period: | Ever/1,2 yrs. | Ever | Ever | Ever | Ever | 5 yrs. | Ever |
| Excluded Uses Against Animals? | No | No | No | No | Yes | Yes | No |
| Excluded Military, Police Uses? | Yes | No | No | Yes | Yes | Yes | No |
| Defensive question asked of: | All Rs | All Rs | Protection hgun owners | All Rs | All Rs | All Rs | Rs in hgun households |
| Defensive question refers to: | Respondent | Respondent | Respondent | Household | Household | Household | Respondent |
| % Who Used | 1.4/3/8.6 ^a | 5.0 | 18 | 15 | 7 | 4 | 6.5 |
| % Who Fired Gun | 2.9 | n.a. | 12 | 6 | n.a. | n.a. | 2.6 |
| Implied number of def. gun uses ^b | 3,052,717 | 1,414,544 | n.a. | 2,141,512 | 1,098,409 | 1,797,461 | 771,043 |

⁸⁰ FIELD INSTITUTE, TABULATIONS OF THE FINDINGS OF A STUDY OF HANDGUN OWNERSHIP AND ACCESS AMONG A CROSS SECTION OF THE CALIFORNIA ADULT PUBLIC (1976); BORDUA ET AL., *supra* note 43; CAMBRIDGE REPORTS, *supra* note 36; DMI (DECISION/MAKING/INFORMATION), ATTITUDES OF THE AMERICAN ELECTORATE TOWARD GUN CONTROL (1979); Peter D. Hart Research Associates, Inc., *supra* note 54; Ohio, *supra* note 36; Quinley, *supra* note 36; Mauser, *supra* note 19; the Gallup polls of 1991 and 1993, L.A. Times poll, and Tarrance poll were taken from a search of the DIALOG Public Opinion online computer database.

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Table 1 (continued)
FREQUENCY OF DEFENSIVE GUN USE IN PREVIOUS SURVEYS

| Survey: | Time/CNN | Mauser | Gallup | Gallup | L.A. Times | Tarrance |
|--|-------------------|-----------|-------------------|-----------------|-----------------|--------------------------|
| Area: | U.S. | U.S. | U.S. | U.S. | U.S. | U.S. |
| Year of Interviews: | 1989 | 1990 | 1991 | 1993 | 1994 | 1994 |
| Population covered: | "Firearm owners" | Residents | Noninst. Adults | Noninst. Adults | Noninst. Adults | Noninst. Adults |
| Gun Type Covered: | All guns | All guns | All guns | All guns | All guns | All guns |
| Recall Period: | Ever | 5 years | Ever | Ever | Ever | 5 years |
| Excluded Uses Against Animals? | No | Yes | No | No | No | Yes |
| Excluded Military, Police Uses? | Yes | Yes | No | Yes | Yes | Yes |
| Defensive question asked of: | Gun owners | All Rs | Rs in hgun hshlds | Gun owners | All | All |
| Defensive question refers to: | Respondent | Hshld. | Respondent | Respondent | Respondent | Respondent/ Household |
| % Who Used | n.a. | 3.79 | 8 | 11 | 8 ^c | 1/2 ^d |
| % Who Fired Gun | 9-16 ^c | n.a. | n.a. | n.a. | n.a. | n.a. |
| Implied number of def. gun uses ^b | n.a. | 1,487,342 | 777,153 | 1,621,377 | 3,609,682 | 764,036 |

Notes:

- a. 1.4% in past year, 3% in past two years, 8.6% ever.
b. Estimated annual number of defensive uses of guns of all types against humans, excluding uses connected with military or police duties, after any necessary adjustments were made, for U.S., 1993. Adjustments are explained in detail in Kleck (1994).
c. Covered only uses outside the home.
d. 1% of respondents, 2% of households.
e. 9% fired gun for self-protection, 7% used gun "to scare someone."
An unknown share of the latter could be defensive uses not overlapping with the former.

- a. Defensive uses of guns against humans by civilians (i.e. excluding uses by police officers, security guards or military personnel). All figures are based on weighted data (see text).

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Table 3
THE NATURE OF DEFENSIVE GUN USE INCIDENTS^a

| | <u>%</u> |
|---|-------------------|
| A. What the Defender Did with the Gun^b | |
| Brandished or showed gun | 75.7 |
| Verbally referred to gun | 57.6 |
| Pointed gun at offender | 49.8 |
| Fired gun (including warning shots) | 23.9 |
| Fired gun at offender, trying to shoot him/her | 15.6 |
| Wounded or killed offender | 8.3 |
| B. Location of Incident | |
| In defender's home | 37.3 |
| Near defender's home | 35.9 |
| At, in, near home of friend, relative, neighbor | 4.2 |
| Commercial place (bar, gas station, office, factory) | 7.5 |
| Parking lot, commercial garage | 4.5 |
| School (in building, on school property, playground) | 0.3 |
| Open area, on street or public transportation | 7.4 |
| Other locations | 2.3 |
| C. Type of Crime Defender Thought Was Being Committed^b | |
| Burglary | 33.8 |
| Robbery | 20.5 |
| Other theft | 6.2 |
| Trespassing | 14.8 ^c |
| Rape, sexual assault | 8.2 |
| Other assault | 30.4 |
| Other crime | 9.5 |
| D. Did Offender Get Away with Money or Property? | |
| % of property crimes with property loss: | 11.0 |
| E. Violence Directed at Defender | |
| No threat or attack | 46.8 |
| Threatened only | 32.3 |
| Attacked but not injured | 15.3 |
| Attacked and injured | 5.5 |
| (In incidents where defender was threatened or attacked): Who was first to threaten or use force? | |
| Defender | 15.3 |
| Offender | 83.5 |
| Someone else | 1.3 |
| F. Offender's Weapons^b | |
| None (unarmed) | 51.9 |
| Weapon | 48.1 |
| Handgun | 13.4 |
| Other gun | 4.5 |
| Knife | 17.8 |
| Other sharp object | 2.0 |
| Blunt object | 9.9 |
| Other weapon | 5.9 |
| G. Shooting | |
| Did offender shoot at defender? | |
| % of all incidents | 4.5 |
| % of incidents with offender armed with gun | 26.2 |
| Did both parties shoot? | |
| % of all incidents | 3.1 |
| H. Type of Gun Used by Defender | |
| Revolver | 38.5 |
| Semi-automatic pistol | 40.1 |
| Other, unspecified handgun | 1.1 |
| Rifle | 6.4 |
| Shotgun | 13.9 |

| | |
|---|-------------|
| I. Relationship of Offender to Defender | |
| Stranger | 73.4 |
| Casual acquaintance | 8.3 |
| Neighbor | 1.3 |
| Boyfriend, girlfriend | 1.0 |
| Other friend, coworker | 1.0 |
| Brother, sister | 0.0 |
| Son, daughter | 0.5 |
| Husband, wife | 3.1 |
| Other relationship | 4.2 |
| Unknown | 7.3 |
| J. Number of Offenders | |
| 1 | 47.2 |
| 2 | 26.1 |
| 3-4 | 17.6 |
| 5-6 | 4.0 |
| 7 or more (includes 3 cases where defender could only say there was a very large number) | 5.0 |
| K. Defender's Perceived Likelihood that Someone Would Have Died Had Gun Not Been Used for Protection | |
| Almost certainly not | 20.8 |
| Probably not | 19.3 |
| Might Have | 16.2 |
| Probably would have | 14.2 |
| Almost certainly would have | 15.7 |
| Could not say | 13.7 |
| L. Were Police Informed of Incident or Otherwise Find Out? | 64.2 |

Notes:

a. Table covers only defensive uses against persons, and excludes nine cases where respondents refused to provide enough detail to confirm incidents as genuine defensive uses.

b. Percentages will sum to more than 100% because respondents could legitimately select or report more than one category.

c. Only 3.7% of incidents involved trespassing as *only* crime.

1995]

ARMED RESISTANCE TO CRIME

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Table 4
COMPARISON OF DEFENDERS WITH OTHER PEOPLE
(WEIGHTED PERCENTAGES)

| | Defenders | Sample ^a | | | All Persons |
|--|-----------|---------------------|------------|--------|-------------|
| | | No-DGU Gun owners | Non-owners | No DGU | |
| Personally owns gun | 59.5 | 100.0 | 0.0 | 23.9 | 25.5 |
| Gun in household | 79.0 | 100.0 | 16.3 | 36.3 | 37.9 |
| Carries gun for protection | 47.3 | 23.3 | 2.1 | 7.3 | 8.8 |
| Burglary victim, past year | 19.3 | 4.5 | 4.9 | 4.9 | 5.5 |
| Robbery victim, past year | 12.9 | 1.9 | 2.0 | 2.1 | 2.5 |
| Assault victim as adult | 46.8 | 29.3 | 18.3 | 21.5 | 22.5 |
| Nights away from home, monthly average | | | | | |
| 0 | 8.2 | 5.2 | 8.9 | 8.2 | 8.2 |
| 1-6 | 27.5 | 24.1 | 33.4 | 31.5 | 31.2 |
| 7-13 | 23.2 | 28.2 | 22.7 | 23.8 | 23.9 |
| 14+ | 42.0 | 42.5 | 35.0 | 36.8 | 36.6 |
| Must depend on self rather than cops | 77.0 | 69.7 | 50.0 | 55.0 | 55.8 |
| Supports death penalty | 72.4 | 85.2 | 65.8 | 70.5 | 70.6 |
| Courts not harsh enough | 75.2 | 78.9 | 71.5 | 74.0 | 74.0 |
| Gender (% male) | 53.7 | 75.4 | 37.1 | 46.4 | 46.7 |
| Age | | | | | |
| 18-24 | 25.7 | 10.2 | 14.3 | 13.1 | 13.5 |
| 25-34 | 36.9 | 21.6 | 22.6 | 22.1 | 22.6 |
| 35-44 | 20.6 | 26.8 | 25.2 | 25.5 | 25.4 |
| 45-64 | 14.2 | 30.6 | 25.9 | 27.3 | 26.8 |
| 65+ | 2.6 | 10.9 | 12.1 | 12.0 | 11.7 |
| Race | | | | | |
| White | 72.4 | 90.3 | 83.0 | 84.6 | 84.1 |
| Black | 16.8 | 5.1 | 9.7 | 8.6 | 8.9 |
| Hispanic | 8.0 | 3.2 | 4.9 | 4.6 | 4.8 |
| Other | 2.8 | 1.3 | 2.4 | 2.2 | 2.1 |
| Place of Residence | | | | | |
| Large City (over 500,000) | 32.5 | 14.7 | 24.7 | 22.2 | 22.6 |
| Small city | 29.8 | 32.2 | 27.7 | 29.4 | 29.3 |
| Suburb of large city | 25.5 | 28.1 | 32.6 | 31.3 | 31.1 |
| Rural area | 12.2 | 24.9 | 15.1 | 17.2 | 17.0 |
| Marital Status | | | | | |
| Married | 50.8 | 69.1 | 57.5 | 60.5 | 60.1 |
| Widowed | 0.6 | 2.2 | 6.5 | 6.2 | 6.0 |
| Divorced/Separated | 15.3 | 10.9 | 11.2 | 11.8 | 12.0 |
| Never married | 33.3 | 17.8 | 24.8 | 21.4 | 21.9 |
| Annual Household Income | | | | | |
| Under \$15,000 | 12.3 | 7.4 | 15.3 | 13.6 | 13.5 |
| \$15,000-29,999 | 30.1 | 23.2 | 27.9 | 26.9 | 27.2 |
| \$30,000-44,999 | 22.2 | 30.3 | 23.0 | 24.5 | 24.4 |
| \$45,000-59,999 | 18.6 | 17.8 | 20.0 | 19.2 | 19.2 |
| \$60,000-79,999 | 7.9 | 12.1 | 8.0 | 8.9 | 8.9 |
| \$80,000 or more | 8.8 | 9.2 | 5.8 | 6.8 | 6.9 |
| Gun-related Occupation | 2.4 | 4.9 | 2.0 | 3.2 | 3.1 |

Notes:

a. "Defenders" are persons who reported a defensive gun use against another person in the preceding five years, excluding uses in connection with military, police, or security guard duties. This sample includes nine cases where such a use was reported, but the respondent did not provide further details.

"No-DGU gun owners" are persons who report personally owning a gun but did not report a defensive gun use.

"Nonowners" are persons who did not report personally owning a gun and who did not report a defensive gun use. These persons may, however, live in a household where others own a gun.

"No DGU" are persons who did not report a defensive gun use, regardless of whether they reported owning a gun.